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W1100 projector
p60

Reviewed SAMSUNG FREESAT PVR **SONY 40IN SMART TV**
QUADRAL CHROMIUM SPEAKERS SAMSUNG 7.1 3D BLU-RAY SYSTEM

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Full test of Panasonic's mind-blowing TX-P55VT30

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Super media server, with added Blu-ray!

Blu-ray for your ears

Exclusive test of Oppo's audiophile BDP-95EU

World-shaking subwoofers

Three of the best bass boxes battle it out

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Boom! Shake the room: super subs grouptest, p77

WELCOME

We would never use the phrase 'best plasma TV ever' lightly – so what's so stunning about Panasonic's P55VT30? Turn to page 38, to find out how the NeoPlasma champ surpassed the Pioneer Kuro...

Panasonic scores again this issue with its first 3D, HDD and BD PVR. If you can wade through the sea of acronyms, check it out on page 56, then get blown away by a slightly more expensive media player, as we play with Kaleidescape's high-end BD server on page 68. We also review of one of the cheapest HD projectors (from BenQ), and one of the most expensive (from Meridian), so you're spoiled for choice.

There are delights for your ears in this issue too; **not only do we have reviews of stunning speaker packages from Tannoy and Quadral, we also have a room-shaking roundup of subwoofers** and take a look at the secret speaker technology THX is working on.

You've chosen the best, so that's what we bring you in every issue of *Home Cinema Choice*!

Chris Jenkins
The Editor

TEAM HCC

Chris Jenkins:
Industry veteran Chris remembers when movies came on stone tablets

Mark Craven:
HCC's Deputy Editor is as passionate about AV gear as he is about Jason Statham

Anton van Beek:
Anton's love of cinema makes him the fount of all movie knowledge

James Waldron:
Taking on our tech testing calls on James' in-depth audio engineering skills

Jill Lubetkin:
Jill's magazine skills mean that even the techiest articles make perfect sense

John Rook:
Art Editor John was here when amps were all silver the first time around

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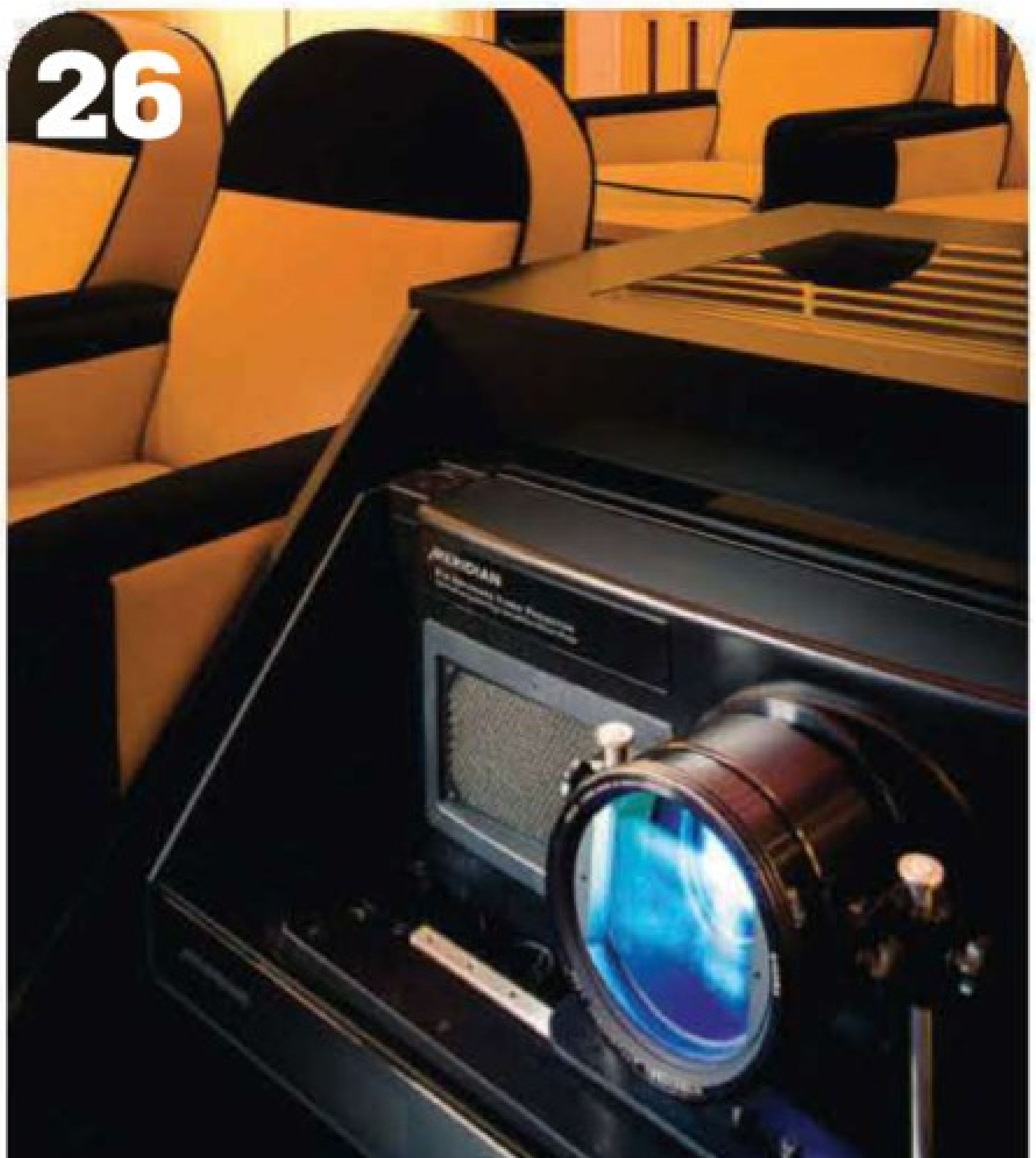
HD six-pack

Denon takes the wraps off its most affordable network-capable AVR to date



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Best plasma ever! p38

Discover how Panasonic set a new standard for home cinema with our in-depth review of its mind-blowing P55VT30 plasma TV

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TECH LABS

Our guarantee to you:
Equipment reviewed in *Home Cinema Choice* is measured and quantified by Future Tech Labs, which for more than 15 years has set the standard for independent AV test & measurement. The findings of the Tech Labs are used to underpin the subjective opinions of our Reviews team, ensuring that you receive the best possible advice when it comes to planning your next purchase

CO-STARRING

This issue's team of expert writers are the best qualified in the business

Adam Rayner:
The UK's foremost expert in extreme audio writes about bass, hi-fi and cartoons

Richard Stevenson:
Industry veteran and former Editor of UK CE trade journal *ERT*

Steve May:
HCC's former Editor-in-Chief is one of the UK's most respected AV journos

John Archer:
The UK's most experienced TV tester cut his teeth as an early *HCC* staffer

Martin Pipe:
Technology specialist Martin co-developed *HCC*'s Tech Lab operation

Adrian Justins:
Made his name as the editor of *What Video & TV* and *What Home Cinema*

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RESISTANCE 3
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Blu-ray Disc
BATTLE: LOS ANGELES
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EXCLUSIVE EARLY ACCESS
LIMITED TIME ONLY
RESISTANCE 3
SUITABLE FOR 16+
"high-octane action spectacular"
Alex Zane, The Sun
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BULLETIN

→**News highlights** **SONY** VPL-HW30ES brings 3D projection to those on smaller budgets **20TH CENTURY FOX** Why the future of home cinema is 'physidigital'... **SAMSUNG** TV giant brings free 3D content to its App service **ULTRAVIOLET** Will the cloud-based movie service ever take off? **JAMO** brings its dinky 5.1 system out to play **AND MORE!**

HD six-pack

Denon AVR-1912 → www.denon.co.uk

DENON
Mozart: Pi 01:36
Network
INTEGRATED NETWORK AV RECEIVER AVR-1912

Described as the brand's 'most competitively priced networking-capable receiver to date' Denon's £500 AVR-1912 looks set to win over AV enthusiasts and gadget fans alike. In addition to such home cinema-friendly features as six HDMI v1.4a inputs, HD audio decoding and 7x 125W of power, this user-friendly AVR also offers a Setup Wizard, AirPlay music streaming, Compressed Audio Restorer tech and a front USB port with Digital Direct Play for iPod and iPhone. And it has a nickname – Everyceiver...

HCC Online...

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Follow us on Twitter @hccmag

Pocket-friendly 3D

Sony VPL-HW30ES
www.sony.co.uk

Buoyed by the success of its *HCC* award-winning VPL-WV90ES, Sony is introducing a more affordable model this July, which puts bigscreen 3D within reach of every home cinema enthusiast. With an RRP in the region of £3,000, you can snap up the projector, plus the TMR-PJ1 transmitter and a pair of the brand's new TDG-PJ1 active shutter glasses. The VPL-HW30ES claims reduced crosstalk thanks to a 240Hz SXRD panel drive system, 70,000:1 dynamic contrast ratio and 1,300 lumens brightness

Partner with…

Marantz NR1602
Slim-line AV receiver → £530 Approx

Marantz's new slimline 7.1-channel AVR belies its minimal profile with the promise of 'room-filling, high-quality sound' thanks to 350W of discrete amplification. An impressive feature-set includes four HDMI 1.4 inputs (with 3D pass-though and ARC), audio streaming from home networks, internet radio and AirPlay functionality.
www.marantz.co.uk

THX thumper

Never one to rest on its laurels, Onkyo has recently released another Spotify-enabled AV receiver. Sure to please home cinema fans, the £1,000 TX-NR809 is a THX Select2-certified 7.2-channel powerhouse claiming 180W per channel, ISF video calibration tools, HGV Vida VHD1900 and Marvell Qdeo video processing (the latter offering 4K upscaling), network functions and an impressive eight HDMI v1.4 inputs and twin outputs – all of which support 3D video and Audio Return Channel. It's flanked in the range by the NR-709 and NR-1009.

www.onkyo.co.uk

Black and white

Boston Acoustics has added a white finish to its A Series speakers. The range consists of the 3-way floorstanding A 360 (£720 p/p), 2-way floorstanding A 250 (£450 p/p), 2-way bookshelf A26 (£250 p/p) and A25 (£200 p/p), 2-way compact satellite A 23 (£150), 2-way centre A 225C (£190), and ASW 650 (£460) and ASW 250 (£280) powered subs.

It's also introduced the £600 A2310HTS 5.1 package, which consists of four A 23 satellites, the exclusive A 223C centre and an ASW 250 subwoofer – all with black finishes.

www.bostonacoustics.com

Blu benchmark

Philips claims to be 'seeking to establish a new benchmark for the mid-market' with its BDP7600 Blu-ray player, and early impressions are certainly favourable.

The stylish £200 deck offers full HD 3D playback, a wide array of file compatibility (including DivX Plus HD, MKV and H.264), 7.1 analogue outputs, upgraded CinemaPerfect HD picture processing, 802.11n wireless connectivity, access to Philips' open standard Net TV service, network streaming and rigid vibration-resistant aluminium casing.

www.philips.co.uk

VOD driving Smart TV forward

Samsung launches free 3D-on-demand app, too

Samsung Apps, the service for its range of Smart TVs, has recorded its 5millionth download only 14 months after launching, and it's video-on-demand content such as YouTube, Blockbuster and Dailymotion that's leading the way.

According to Samsung, that's not a surprise. 'The TV is a family-based device and people want to lean back and enjoy their time in front of it,' said Kang-hyun Kwon, senior VP of Samsung's Media Solution Center. 'It's no surprise that these applications would be at the top of the lists globally and regionally.'

The popularity of YouTube *et al* also helps drive Smart TV owners to other apps. Said Kwon: 'These are the entry point for consumers to discover gaming and social networking.'

Samsung's data also shows that the Smart TV concept is gaining traction. The download figure reached two million in January 2011, following the February 2010 launch of Samsung Apps. Since then there have been a further three million.

Trailing 3D

The AV giant currently offers more than 500 apps, but while VOD services are clearly among the most popular, these only account for 14 per cent of apps available. Nearly a quarter of the apps (24 per cent) on Samsung's platforms are games. Of these, *Texas Hold 'Em* is the most popular.

One of the newest additions to Samsung Apps should have considerable appeal to home cinema hedz. Dubbed 'Explore 3D', it makes Samsung Smart TVs the world's first to offer free 3D-on-demand content.

Samsung's Kang-hyun Kwon, says the popularity of VOD on Smart TV is no surprise

The service launched recently with a thin content selection, including four movie trailers (by collaborating with DreamWorks), plus music videos, children's stories, a few documentaries and eight IMAX films. The list will, no doubt, grow.

Content is streamed from Samsung's server in side-by-side format (720p). *HCC* enjoyed a demo, and the quality was fine, with no noticeable buffering. Samsung is recommending a 4MB broadband connection.

With no blockbuster movies available, Explore 3D has limited appeal, but works well as a 3D taster, giving new TV buyers a glimpse at what the format can offer. It's also proof that net-delivered 3D content is a viable technology. With that in mind, AV enthusiasts can surely expect 3D-on-demand films to appear on the other VOD services on Samsung's Smart Hub.

First to go stereoscopic may well be Universal-owned PictureBox: 'We are looking to stream our first 3D movie in Q3 of this year, but there's still a lot to do,' said Kwon.

Content is streamed using the side-by-side format

Playlist...

Team *HCC* reveals its Playback picks of the last month

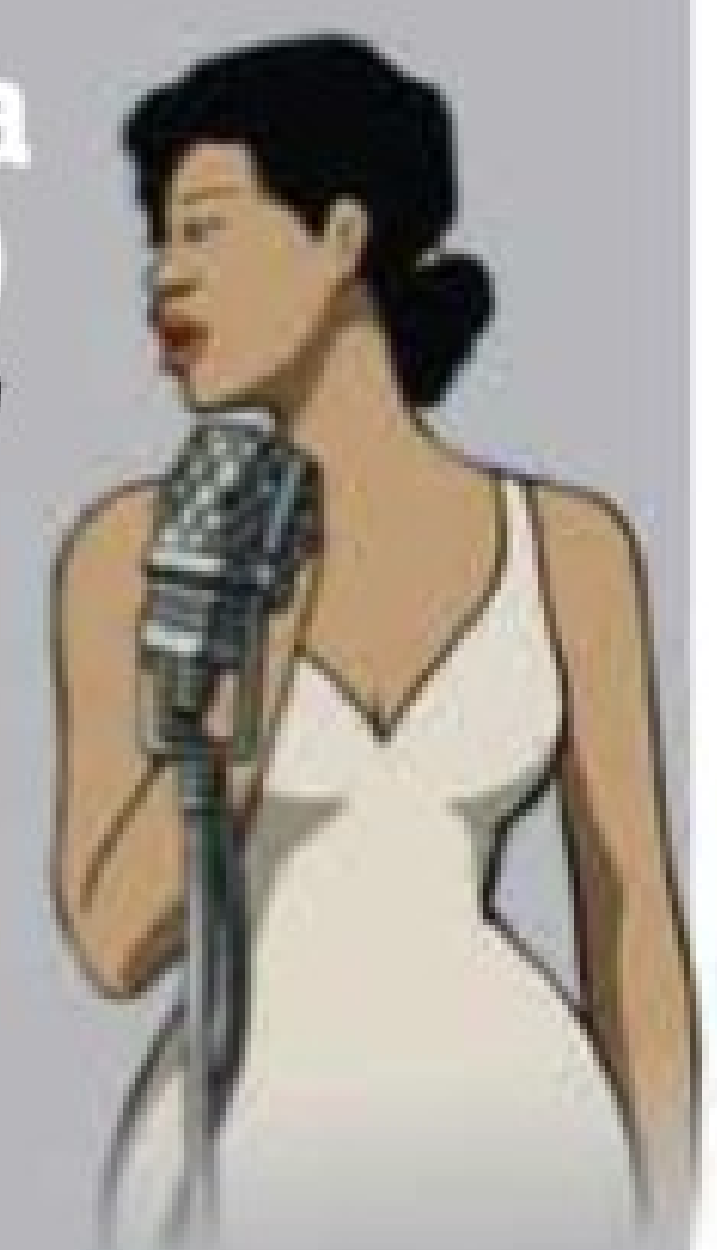
Time Tunnel: The Complete Series (R2 DVD)

Recapture your childhood with Irwin Allen's classic 1966 TV sci-fi adventure series. CJ

Trespass (BBC One)

Walter Hill's buried-treasure-beat-em-up is a cracking genre flick, but the Beeb's scratchy 4:3 presentation did it no favours. MC

Chico & Rita (Region B BD)



Dramatic 'shadow play' and a cracking jazz soundtrack make this adult animation totally captivating. JL

Deadwood (R2 DVD)

This superior western series reveals copious amounts of depth and detail. JW

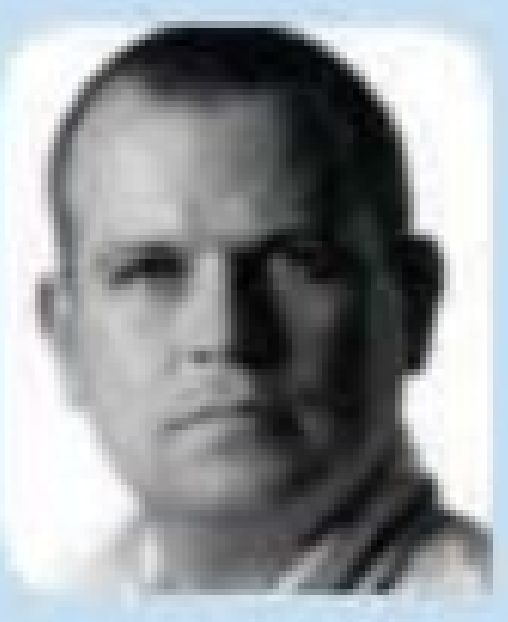
Game of Thrones (Sky Atlantic HD)

HBO's adaptation of George RR Martin's novel is a necessary shot in the arm for the much-abused fantasy genre. AvB

Talkback

Team *HCC* reveals its thoughts about the future of physical media

I like the idea of maintaining a disc collection as much as anyone, as my groaning shelves of CDs, DVDs and BDs attest, but I can't help feeling that physical content is on its way out. Recent figures revealed that almost 30 per cent of US peak Internet traffic is taken up by Netflix movie downloading, and it's commonly held that Blu-ray will be the last physical media platform. It's only broadband speed, and hence file quality, holding back the inevitable. As soon as they pick up, which they will, I think you can start clearing your shelves of discs...! *CJ*



For years now, I've been having a back and forth argument with colleagues and readers alike about the sustainability of physical media as a home entertainment delivery method. My major concern is that the infrastructure doesn't exist in the UK at present to deliver Blu-ray quality material to my home cinema – which could be problematic if the industry rushed forward in an effort to monetise online delivery services. As such, it's great to see a studio like Fox remain committed to quality (Blu-ray), as well as convenience (VOD) and prove that both can operate together. ***AvB***

Fox boss gets 'physidigital'

There's room for physical discs and internet streaming, he claims

DVDs and Blu-rays have plenty of life in them yet, despite the growth in network streaming services and video downloads. So says Robert Price, UK Managing Director for Hollywood's Twentieth Century Fox Home Entertainment.

HCC caught up with the film chief to get his take on the rapidly changing home entertainment landscape. With feet in both physical media and digital distribution, Fox has a unique perspective on the fast-moving world of home entertainment.

'The shift to digital doesn't mean the death of physical media for movies,' he says reassuringly. 'When it comes to high-quality films, streaming or downloading them in true HD quality, it's just not feasible due to bandwidth restrictions. People want to watch movies digitally because they want the choice of watching their content on many devices, but that doesn't mean they won't buy a box with a digital copy enclosed.

'We believe that not only will both (physical and digital formats) live together comfortably, but that, in the case of ownership, they will merge,' he says. Price has even coined a new name for the evolution, believing 'the future is physidigital'.

Flexibility is key

He says the key to the future of the humble disc is versatility: 'People are now demanding full flexibility on the content that they own. They want to 'buy it once, play it everywhere.' We need to provide that flexibility, and the addition of a DVD and a digital copy and in our all new Blu-ray titles gives consumer the ability to move the content they own to their electronic libraries and to play them on their iPhone or iPad. '

Fox's UK MD, Robert Price: Bandwidth restrictions will limit HD 'net streaming

Ultimately the enabling technology for all this may be the Digital Locker concept championed by the UltraViolet group: 'Interoperability is a key consumer to justify ownership, so we fully support the move towards standardisation that UltraViolet is enabling.'

In the short term, however, our homegrown Hollywood head believes that consumers need to be migrated from DVD to Blu-ray. 'We know from the experience of Amazon US that when customers become Blu-ray consumers, they significantly increase their purchase frequency.'

He says he wants to see retailers incentivise shoppers to buy a Blu-ray/DVD player rather than a basic DVD player.

While Price concedes that movie streaming is on the increase (because 'Video on Demand is becoming a better consumer experience'), he doesn't believe the movie market is tipping towards streaming rentals rather than disc purchases.

'There are certain movies that people will want to own. The only real choice is Blu-ray.'

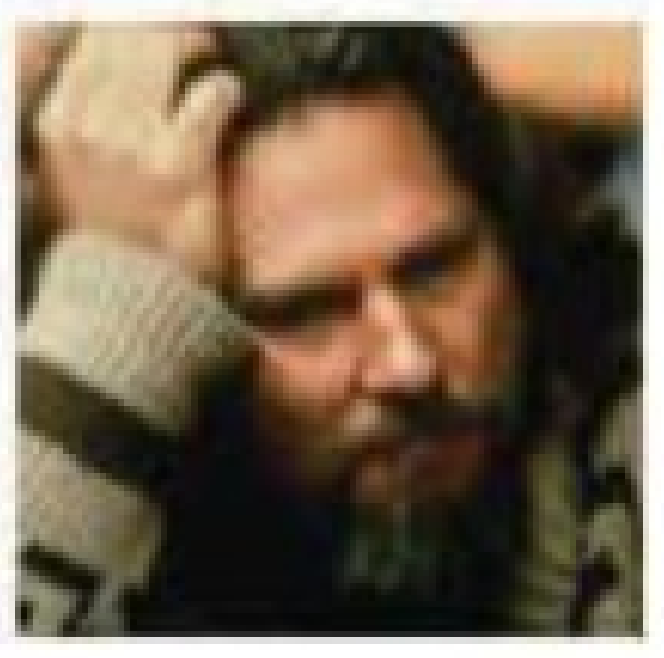
NARNIA
UNSTOPPABLE
TRIPLE PLAY

All Fox's new BDs offer a digital copy

Blood on the track

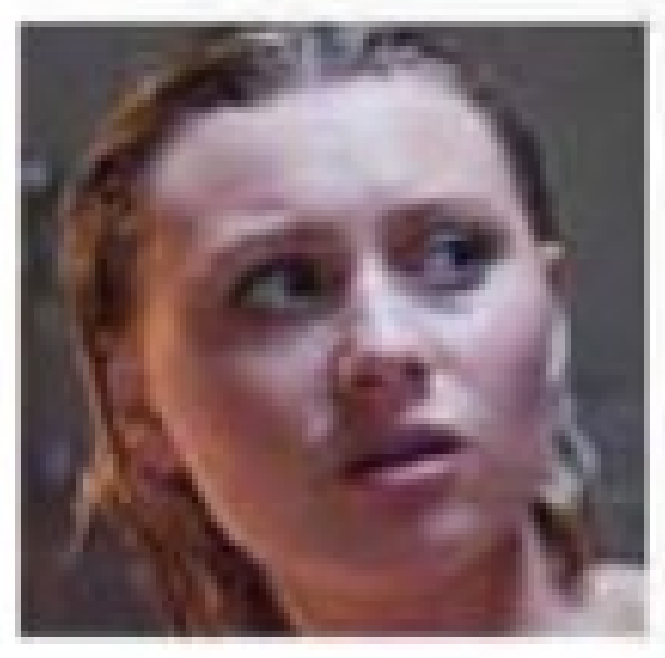
Fresh from wowing critics at cinemas – and prior to the Hollywood remake that's currently in the works – groundbreaking Uruguayan chiller, *The Silent House*, will be arriving on DVD and Blu-ray in the UK on August 1. Touted as the film where 'the horror is quite literally non-stop', this daring and audacious flick was filmed as one continuous tracking shot and claims to be based on a true story. Given all of this, it's something of a disappointment to learn that the only extras promised for both the DVD and BD release are trailers.
www.optimumreleasing.com

White Russians...



Coen Bros' cult favourite *The Big Lebowski* will be making its Blu-ray debut in the UK on August 22. While full disc specification has yet to be revealed, we can confirm that Universal's high-definition disc will endeavour to bowl you over with a selection of new *U-Control* features including picture-in-picture interviews and behind-the-scenes footage, an on-screen 'Dude-isms and F-bombs' counter, and pop-up music information that identifies songs in films and enables you to create your own Playlist.
www.universalpictures.co.uk

Scary sharer



College life can be particularly stressful at the best of times. But as Sony Pictures' latest thriller *The Roommate* goes to show, it could be so much worse, particularly if you end up being the object of obsession for a *Single White Female*-style nut-job who shares your room.

Promising 'nail-biting thrills and shocking twists', the movie comes to DVD and BD in the UK on September 19, with extras including a commentary, deleted scenes, a *Making of...* and a featurette on 'dressing dangerously'. We can't wait to start screaming.
www.sonypictures.co.uk

Routed legion

Fans of historical epics should keep their eyes peeled for Universal Pictures' *The Eagle*, which strikes camp on DVD and BD in the UK on July 25. Set in second-century Britain, the film follows the adventures of a young centurion as he investigates the unaccountable disappearance of an entire legion in Scotland. Blu-ray bonus features are said to include a cast and crew audio commentary; an alternate ending; deleted scenes; *The Eagle: The Making of a Roman Epic* documentary and throws in PocketBLU functions for added enjoyment.
www.universalpictures.co.uk

The PMT-Team

Sucker Punch: Extended Cut → Warner Home Video → R2 DVD & All-region BD

Zack Snyder's hymn to girl power explodes onto Blu-ray on August 8. Emily Browning stars as Babydoll, a young woman locked up against her will, who ventures into her imagination to battle dragons, ninjas and Nazis for freedom. In addition to the 127-min Extended and 110-min Theatrical Cuts, the Triple-Play Blu-ray also features a Maximum Movie Mode hosted by Snyder and a collection of animated prequel stories. A DVD containing the theatrical cut and the animated shorts will also hit the streets on the same date.

Premiere

HCC's guide to what's happening in the world of TV and films...

Sinker in 3D

James Cameron has revealed that his 1997 epic *Titanic* will be setting sail on the big screen once again on April 6, 2012, to coincide with the 100th anniversary of the start of the ship's doomed maiden voyage. However, this time around it'll be the 3D conversion of the film.

Diesel power

Sci-fi anti-hero Riddick is returning to the big screen. Vin Diesel has revealed that Universal will produce an R-rated third Riddick movie, with one caveat – the studio is insisting he works for the minimum wage set by the Screen Actors Guild.

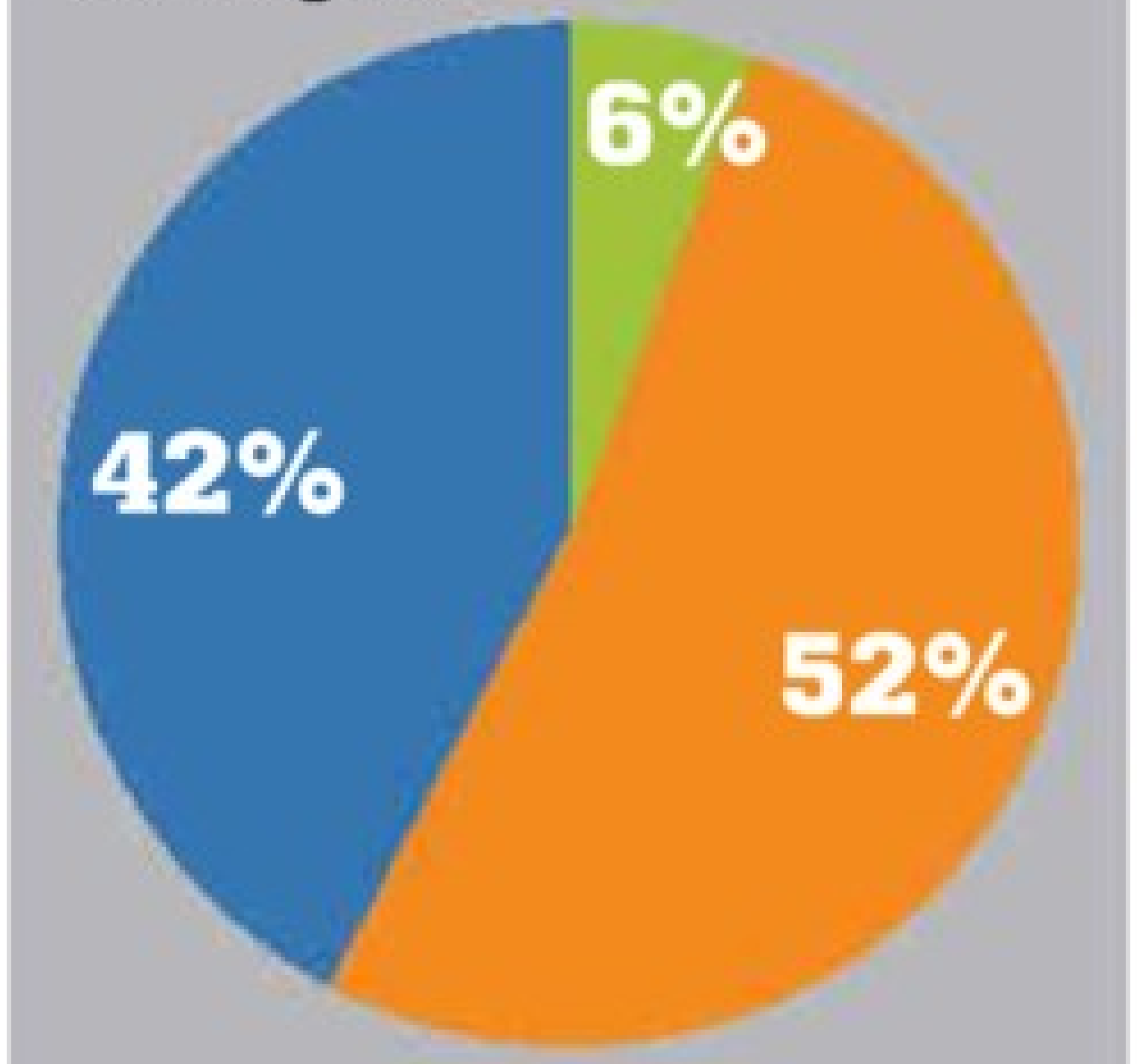
Yabba-dabba-do!

As if overseeing *Family Guy*, *American Dad!* and *The Cleveland Show* wasn't enough, Seth MacFarlane has a new animated show on the way. Fox Television has confirmed that he's rebooting *The Flintstones* with what it describes as 'a 21st century spin'. The new series is expected to arrive in 2013.

We asked...

Which audio compression tech do you prefer?

- 🟩 Dolby Digital
- 🟧 DTS
- 🟦 I don't care so long as it sounds great



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Film industry future is cloudy

Multi-platform distribution for movies could be the way to go

When it comes to success for mid-level films, 'it's all about DVD revenue', according to CinemaNX's Marc Samuelson. Speaking at Insight 360º, an industry exploration of the impact of technological innovations on the home entertainment market, Samuelson claimed that for a film company like his 'you don't make any money from a cinema release'.

Set up in 2007, CinemaNX has handled financing, production and distribution for a variety of films and TV projects including *Me and Orson Welles*, *The Disappearance of Alice Creed* and the hit BBC thriller *The Shadow Line*. However, one of its biggest successes to date is the documentary *TT3D: Closer to the Edge*, which at the time of writing is getting ready to pass *Supersize Me* by becoming the seventh biggest documentary of all time at the UK box office. But even for a film like this, with a budget in the region of £2.5million, success at the box office will barely allow it to break even. 'You should call theatrical revenue ancillary, because it's just marketing. The money all comes from home entertainment, led by DVD'.

Piracy hits hard

This heavy reliance on DVD revenue for film and TV production in the UK – particularly during the current economic downturn – means that both are being hit particularly hard by online piracy, with recent research showing that it costs the UK audio/visual entertainment sector around £0.5billion a year in lost sales. And, ultimately, it's the independent films that live or die on the revenue they make from DVD and BD releases.

'Under-pinning everything is copyright,' claims Liz Bales, Director General of the Industry Trust for IP Awareness, 'and when copyright regulation lacks the ability to adapt the market becomes distorted and is replaced by unlicensed services.'

CinemaNX's Marc Samuelson: Box-office returns are only peanuts versus discs

One possible solution to this under discussion at the event was the long-gestating, cloud-based service UltraViolet. This digital locker initiative designed to bring multi-platform support to consumers through a single purchase is finally gearing up for launch this year. However, while the UV digital rights lockers will be available for registration later this year, alongside software updates for Windows and Android devices, UV-embedded Blu-ray decks and set-top boxes are not due to arrive until 2012.

Rob Arthur, managing director of Apollo Cinemas, was keen to embrace UltraViolet as a way of enhancing the Apollo brand and the customer experience. He said, 'We hope that in the future Apollo Cinemas will be cross-platform... For instance, 2012 sees the release of *Star Wars 3D*, and we'd love to be able to sell the rights to the UltraViolet versions along with our cinema ticket.'

***TT3D* is expected to break all box-office records**

Mini dynamite

Danish audio specialist Jamo has introduced a new pint-sized 5.1 home cinema speaker system that comes with an appropriately small price tag. The £300 A 101HCS5 system features dinky speakers that the company claims 'only draw attention by virtue of their impressive sound quality'. The system consists of five 2in-deep A 101 satellites (pictured) that employ a newly developed 3in driver, plus the dedicated A 101SUB subwoofer, which is equipped with a 200W amplifier and twin 8in drivers.

www.jamo.co.uk

LEDs enriched

Loewe has redesigned its Xelos entry-level TV range. Available in 32 and 40in screen sizes and with prices starting at £995, the latest LED models don't skimp on features, offering up 100Hz picture processing, Loewe Sound System + and USB recording. No wonder the company describes Xelos as providing a taste of its high-end designs at a fraction of the cost. In other news, Loewe has added Napster's digital music streaming service to the MediaNet IPTV portal available on its Individual LED, Connect LED and Art LED ranges.

www.loewe-uk.com

Firmware for 3D

Optoma has released a free firmware download for owners of its HD65, HD700X and GT7000 projectors that makes the models compatible with the company's award-winning 3D-XL Projector Adaptor. 'The 3D-XL has been an enormous success... We wanted to ensure that access to 3D images from the likes of Sky, Sony PS3 and Xbox are available to as many of our customers as possible,' says Optoma Head of Product Management, Justin Halls. The download and instructions can be found at the website below.

www.optoma.co.uk/3dhd65

This month's top 10 news stories in handy, bite-sized chunks...

Tascom's task: Pixar pets or cute Danish speakers?

News x10

1 Danes switch to Tascom

Danish loudspeaker company, Scandyna, has appointed Tascom International Ltd. as its new UK distributor. The company behind such unusual speaker designs as The Drop, Minipod, Bass Station and Cinepod, claims the deal 'will only help strengthen Scandyna's UK market position for the future'. Which is good news for fans of odd-looking cabinets.

2 Screens to get 3D tech

Samsung and RealD have joined forces to create a 3D technology that incorporates the active shutter technology into the TV rather than the glasses, allowing the use of inexpensive spex. The tech will roll out on computer monitors in early 2012, but is expected to come to its TVs further down the line.

3 Hook, line and 3D sinker

Research from the Digital Entertainment Group has shown that consumers who buy 3DTVs and watch 3D at home overwhelmingly like the format. A good thing too, considering how much money they'll have spent...

4 Tough times for Sony

Following a difficult year that has included the horrific Japanese earthquake and the well-publicised hacking of its PlayStation Network, Sony has revealed that its earlier predictions of a 70billion yen profit have been abandoned, and it now expects to post a 260billion yen loss for the last financial year.

5 YouTube hits new high

Video-streaming site YouTube has broken yet another record. Following the launch of its movie rental surface in the US earlier this year, the platform has now announced a 50 per cent increase in year-on-year viewing figures, resulting in more than three billion views a day.

6 Panasonic prunes staff

Panasonic has revealed that it plans to cut around 10 per cent of its workforce in Japan – which is more than 10,000 jobs. The cost-cutting comes as part of a move to restructure the company by the end of the 2012-13 financial year, which could lead to more than 40,000 job losses worldwide.

7 US domination

Online movie service Netflix has been declared the largest single consumer of internet bandwidth in North America in a Global Internet Phenomena report. The service accounts for a whopping 22.2 per cent of daily internet traffic, edging out BitTorrent, which accounts for 21.6 per cent of daily traffic in the country.

8 You're in

Runco founder Sam Runco and Ethernet co-inventor Dr. Robert Metcalf are just two of the 11 inductees that the Consumer Electronics Association has announced will be joining the CE Hall of Fame this year.

9 Sharpest Sharp

LCD bigwig Sharp has been showing off a mammoth 85in display in Japan that boasts 16x the resolution of HD. The perfect match for NHK's Super Hi-Vision broadcast format, the panel features a pixel resolution of 7,680 x 4,320.

10 Octogenarian

Loewe is in a celebratory mood this year, with 2011 marking the 80th anniversary of the unveiling of the world's first fully electric TV on its stand at the 8th Berlin Radio Show. As you can see from this photo of the landmark invention, Loewe's design ethos has gone through a radical rethink over the intervening decades...

An early Loewe 'electric' TV: Heavy on cabinetry, light on screen!

Web chat

A recent *DVD Addict* column about Blu-ray pricing stirred up plenty of debate on the *HCC* website...

Hold it down!

'Do you know how much it costs the studios to produce Blu-rays? Buttons! I am not sure what right you have to castigate filesharers or anyone else. If it wasn't for the likes of filesharers, and those who promote the need for some sort of constraint and a ceiling value of a monopoly market product, these bits of plastic would exceed £50!'

Stop triple play

'It annoyed me to find heavily discounted *Harry Potter and the Deathly Hallows: Part One* on the day of release restricted to DVD. At Morrisons you could pick up the DVD for £6, but the Blu-ray remained full price at around £20! I think it might be better if they stopped all the Triple Play nonsense and knocked a few quid off a BD instead.'

Imbalanced pricing

'The difference in production costs of Blu-ray or DVD are minimal, so there's no real justification for a difference in price really. A large number of people in the whole industry are grossly overpaid – I'm not gonna subsidise that. £5 for a movie is reasonable. Until the law of supply and demand brings prices down, I'll continue to buy the odd movie and 'borrow' the rest.'

VoD is money spinner

'I recently attended a seminar on film financing. On one of the panels, all concerned (senior people in the business in production, distributing, marketing, legal etc.) agreed that physical media, DVD and Blu-ray, is dead – but not yet! That's to say everyone is looking at VOD as the real revenue earner of the future, and it cannot come quickly enough.'

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Home Cinema Choice, 01/2010:
"Absolutely brainsplitting dynamics", Overall: 4/5

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POINT OF VIEW

When an evil experiment goes right with his Elac floorstanders, **Richard Stevenson** thinks that Dolby and THX specs have misguided the AV world

Dedicated centre-channel loudspeakers are wrong. After 20 years of being a home cinema enthusiast, this discovery was a *bonafide* epiphany. Annoyingly, it didn't come to me like a bolt out of the blue, though. Instead it was brought about by a courier with all the manual dexterity of a lightly oiled halibut.

Somewhere between Kiel in Germany and East Sussex, the courier had dropped one of a pair of Elac FS247 SE floorstanding loudspeakers heading my way. I assume he was up a very tall ladder at the time. Elac dispatched a replacement speaker pronto and, due to the tight time constraints, sent another pair just in case. Eventually, I ended up with five identical Elac floorstanders... and an idea formed in slow motion with fuzzy edges. Some light soldering repaired the damaged speaker acoustically and the five Elacs were set up with a pair of Velodyne subs. I practised my best fiendish laugh, while the crackling Van der Graaf generator echoed around the lofty castle tower. Meanwhile, I sent Igor off to fetch half a dozen Blu-ray movies...

On the slab...

The FS247 SE is a stunning speaker for the money, and while £3k a pair is hardly a bargain, in this rather imposing setup they were absolutely first class. By far the most jaw-dropping facet of the sound was the seamless integration across the front of the room, with a huge soundstage that extended into Kent one way and out to Dorset the other. I switched out the middle-front Elac for a very efficient dedicated centre speaker... and the whole illusion collapsed.

Back when Dolby, George and Tom were all wearing shorts and drinking school milk, they sketched out specifications for Dolby Surround and THX. These insisted on using identical loudspeakers all round to maintain tonality and better craft a seamless soundstage. So why does almost every serious 5.1 system offer a centre-speaker that is a completely different shape, size and sound to the main speakers? One reason, as postulated by *HCC*'s own Mark Craven, is 'because only a lunatic wants to live with a floorstanding loudspeaker in the middle of the room, Stevenson.'

True enough, centre-channel speakers are created for a particular space. They generally need to be below the TV and horizontal, and they often use smaller driver arrays than the main speakers. They are definitely going to sound different – even if their key duties only extend to the dialogue frequency range. Then, just to move even further away from Dolby/THX spec, most people put the centre speaker on a TV shelf or, worse still, inside a cabinet. Just try putting your head in that space and listening to the main speakers (obviously while no one is watching). You'll notice that the distortion is massive.

That said, even I would admit that having a damn great floor standing speaker perfectly placed in front of the TV is not going to win friends and influence people. Even in my projector-based system, the FS247 SE in the centre imposed a speaker-shaped shadow on the bottom of the screen. I am yet to hear any projector screen that actually lives up to its billing as 'acoustically transparent', so putting the speaker behind the screen is not ideal either. And how would you buy five identical loudspeakers anyway? Serious 5.1 systems always come with a dedicated centre channel unit and buying stereo speakers won't work either; no retailer is going to sell you just one speaker from a stereo pair.

Clearly the solution is short, fat but highly accomplished stereo loudspeakers. and a cooperative of home cinema enthusiasts who buy quantities of speakers divisible by five or seven. I am damn sure I never saw that in the Dolby spec ●

Tried any speaker experiments yourself? Let us know by emailing hcc@futurenet.com

Richard Stevenson, also known as Herr Doktor Frankenson, often creates monstrous speaker combinations at dead of night

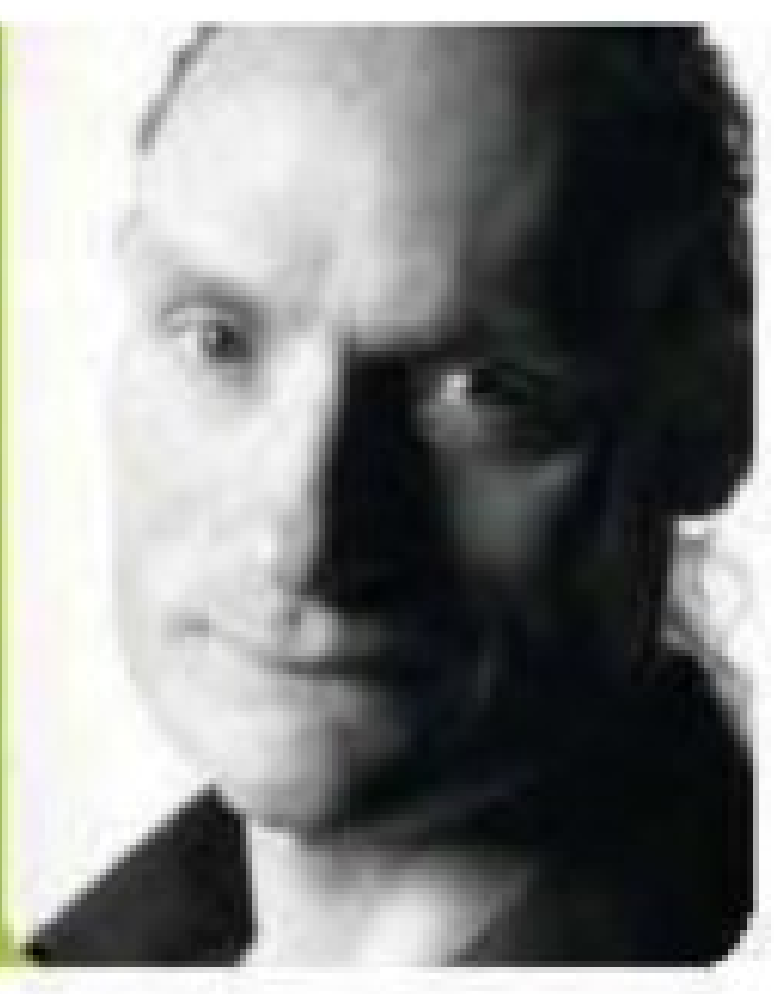

ILLUSTRATION: BY TEKURA MAEVA

DVD ADDICT

When it's dark at 4pm and there's an eerie tapping noise at the door, **The Beek** wishes he had all his classic winter ghost stories on DVD

As a child, the onset of Summer was always my favourite time of year, as it meant the arrival of my mother's Autumn/Winter mail-order catalogues. In those days, these were the only previews children got of the new toys that would be hitting shelves that Christmas. And when they arrived, I'd spend one Summer night pouring through the Toys & Games section in each, writing out my Christmas List for the year.

But what has any of this got to do with DVD, you ask? Well, I was recently thinking about how there are still a handful of titles I've always wanted to own that have simply never been given a DVD release. So, with Summer upon us once again, here's my letter to Father Christmas, in the vain hope that he may be browsing a copy of *HCC* in his North Pole branch of WH Smith.

Dear Santa,
I hope you're not sour about the fact that I haven't been in touch for the best part of three decades and can pick up our relationship where we left off. I'm back with another Christmas list and this time there's only one thing on it!

Quite simply, could you please have a word with the relevant parties at the BBC and 2entertain Ltd. and get them to put together *A Ghost Story for Christmas* DVD boxset? This was a strand of pant-wettingly terrifying chillers made by the BBC that led to no end of sleepless winter nights across the UK. The series kicked off with an adaptation of MR James' *The Stalls of Barchester* in 1971, and tackled four more James stories over the next four years (*A Warning to the Curious*, *Lost Hearts*, *The Treasure of Abbot Thomas and The Ash Tree*). 1976 saw the addition of Charles Dickens' *The Signalman* to the series, with the final two years offering up entirely original (if not as successful) scares with *Stigma* and *The Ice House*.

Despite the high regard in which many of them are held, only two have ever surfaced on DVD – *A Warning to the Curious* and *The Signalman* – courtesy of the BFI. But the licensing deal has long since run out, and neither is available any more outside of paying ridiculously inflated prices online for secondhand copies.

So close and yet so far

What makes the situation even more frustrating is that the BBC began revisiting the concept in 2005 and 2006 with brand new adaptations of James' *A View from a Hill* and *Number 13*, which screened on BBC Four accompanied by repeats of a selection of the original films with new introductions from members of *The League of Gentlemen*, plus a documentary on the films and another about MR James. And just when it looked like the concept of the Victorian ghost story had died again, last Christmas saw BBC Two screen a new adaptation of James' *Oh, Whistle, And I'll Come to You, My Lad*, starring John Hurt.

Would it take too much to persuade the BBC and 2entertain Ltd. to compile one sumptuous DVD boxset? Thanks to the recent episode intros and documentaries, they've even got a bunch of bonus features ready to go, so they don't have to spend more money there. All that I would ask – having seen the condition of the two deleted BFI discs – is that they let the *Doctor Who* Restoration Team work their magic on the transfers.

So, how about it Santa, think you can help with this? And if so, maybe next year we can get them to release the disturbing 1983 rabies outbreak mini-series, *The Mad Death*, on DVD as well.
Best regards,
The Beek (age 36¼) ●

What are your favourite movies for long Winter nights? Let us know: email hcc@futurenet.com

Anton van Beek
When he's not at his desk, Anton's keyboard starts up on its own, sending messages from the ethereal world beyond home cinema

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Trusted Reviews RECOMMENDED
TX-P50VT30B, Recommended (9 out of 10), Trusted Reviews, April 2011

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TX-P50VT30B, 5 Stars, T3, April 2011

WHAT HI-FI? SOUND AND VISION
TX-P50VT30B, 5 Stars, What Hi-Fi?, July 2011

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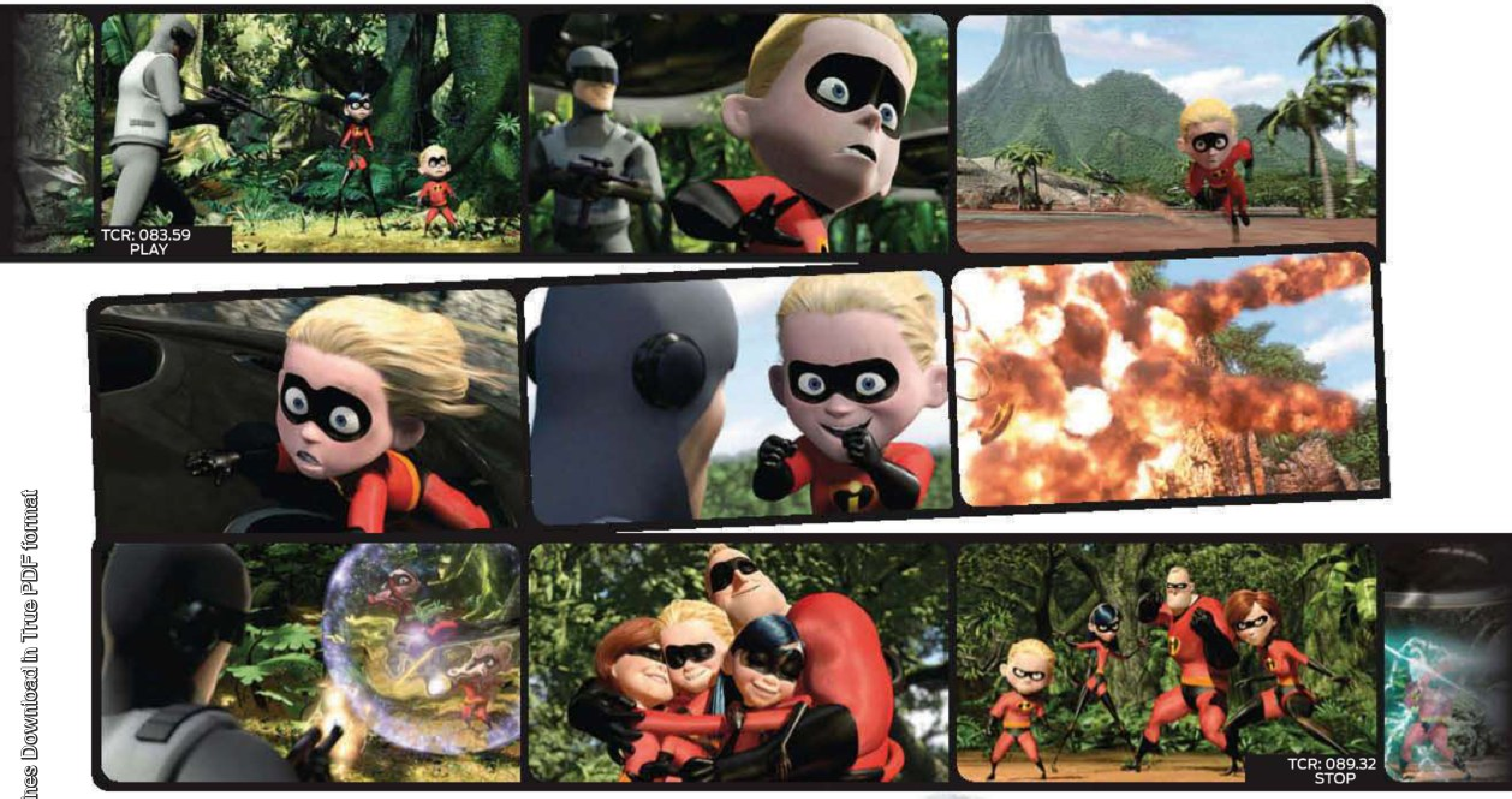
Demo screen

Pixar's **The Incredibles** is a cracking Blu-ray – use it to test out your home cinema's super powers



The Incredibles

Walt Disney Home Entertainment → All-region BD → £25 Approx

Time code: 083.59-089.32

US Founding Father Benjamin Franklin once wrote 'In this world nothing can be certain, except death and taxes'. What he neglected to include was '...and that all Pixar Blu-rays will be reference quality discs'. Although, to be fair, Franklin wasn't to have known this, having died some 216 years before the hi-def format was introduced.

However, while you can spin up any Pixar BD on your home cinema and be instantly blown away by the hi-def visuals and lossless audio, you'd be hard pushed to top this action-packed chase sequence from Brad Bird's 2004 smash, *The Incredibles*. And, as luck would have it, the film has just made its UK BD debut.

'This sequence is one of the reasons I wanted to do the movie... It's just one of those things I desperately wanted to see as a moviegoer,' claims Bird. And it's easy to see why. Working with animation allowed him to cook up the kind of large scale superhero action that would bankrupt most studios if they tried to do it with live action.

While computer animation has developed in leaps and bounds over the past seven years, *The Incredible*'s visuals still hold up well – this sequence alone delivers diverse and richly coloured locations, a vibrant colour palette, intricate detailing and a sharpness that makes the characters feel more three-dimensional than those in most 3D movies.

Even more impressive, though, is the BD's DTS-HD MA 5.1 ES mix. During this scene it serves up a parade of acoustic treats, from the frantic pitter-patter of Dash's feet as he races off, to the bass-infused engine throb of his pursuers and positional precision in the placement of gunfire and other effects.

In other words, much like its titular super-family, this disc is simply incredible ●

Tech diary

The world of AV and film changes fast. Our calendar ensures you don't miss out

Big Momma: It doesn't get much more gender-bending than this...

Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday

JUL

1

Transformers: Dark of the Moon

The 'bots are back in UK cinemas, and director Michael Bay promises to make up for the lousy Transformers 2 with this 3D blockbuster

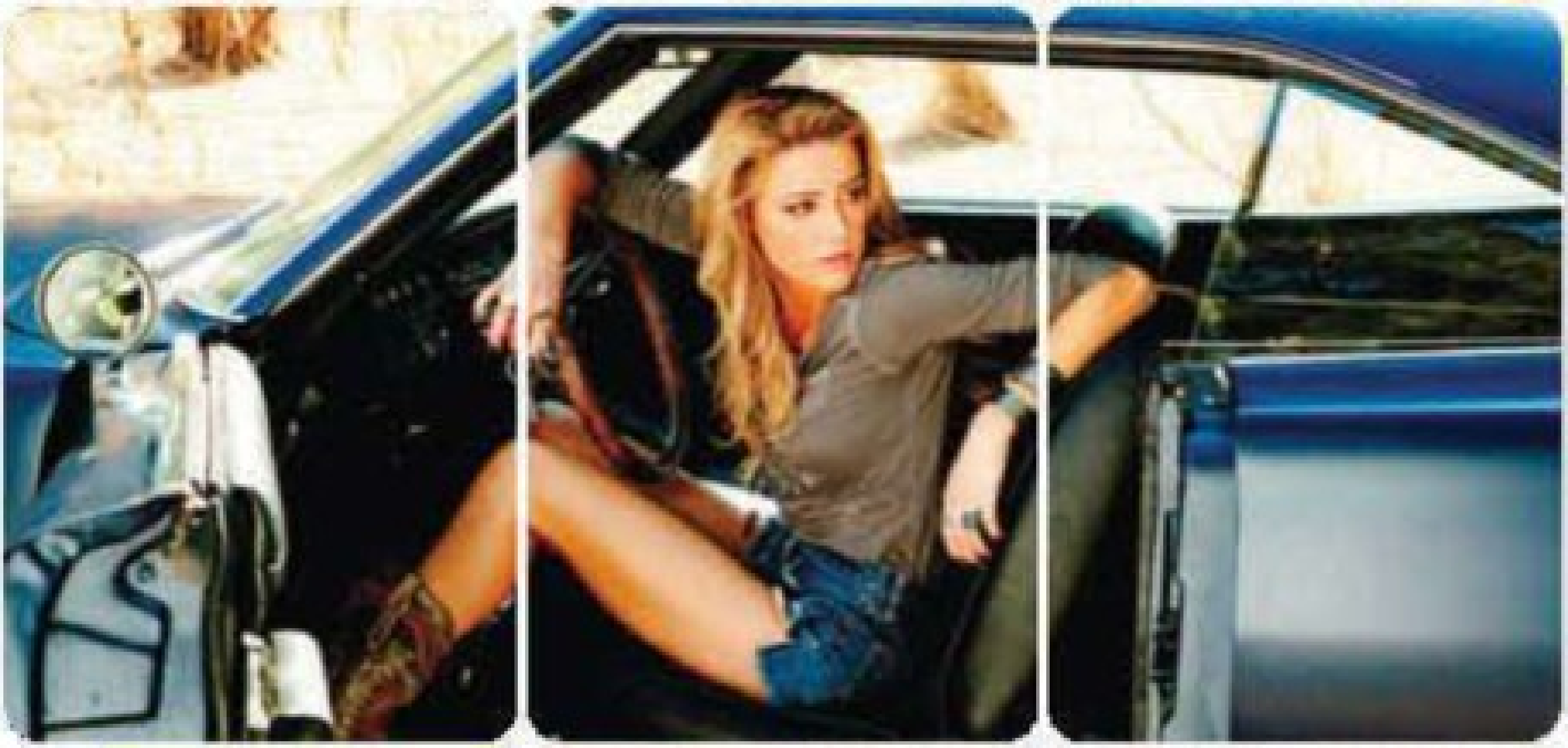
www.paramount.com

4

Drive Angry 3D

Nic Cage joins scream queen Amber Heard for this schlock horror about a criminal who breaks out of Hell to save his granddaughter. Catch it on DVD and 3D Blu-ray from today

www.lionsgatefilms.co.uk



8

The Princess of Montpensier

Follow the Transformers sequel with something a little more cerebral – this acclaimed French period romance from Bertrand Tavernier opens this Friday

www.optimumreleasing.com

11

Ironclad

Today sees the UK DVD and Blu-ray release of this rollicking medieval action flick about a Templar knight and his ragtag group of warriors defending Rochester Castle from nasty old King John

www.warnerbros.co.uk

12

Wolf Man R.I.P

Hollywood legend Lon Chaney Jr. died on this day in 1973. He is best known today for his monstrous roles in numerous Universal horror classics including *The Wolf Man*, *The Ghost of Frankenstein* and *The Mummy's Tomb*

15

Harry Potter and the Deathly Hallows: Part 2

Will Harry kill Voldemort? Will Ron snog Hermione? Will it be screened in hastily converted 3D? Find out today in UK cinemas

www.warnerbros.co.uk

16

Catcher in the Rye

JD Salinger's novel, regarded as one of the best books of the 20th Century, was first published on this day in 1951. But, despite interest from the likes of Brando and DiCaprio, it's never been adapted for the big screen

17

Disney magic

The public finally got a sneak peak at California's Disneyland Park on this day in 1955, one day before it opened, thanks to an 'International Press Preview' that included live broadcasts from the resort

18

Big Momma's: Like Father, Like Son

Think cross-dressing is the pinnacle of comedy? Then rush down to the shops today to pick up this third instalment in the *Big Momma* franchsie when it hits DVD and Blu-ray in the UK.

www.fox.co.uk

21

'One small step...'

Astronauts Neil Armstrong and Edwin 'Buzz' Aldrin made history on this day in 1969, when they became the first men to walk on the moon, during the *Apollo 11* mission

22

Cars 2

The least interesting Pixar film gets its very own sequel – this time with added spy stuff. At least the kids should enjoy it. Catch it in 3D from today at cinemas and IMAX screens across the UK

www.disney.co.uk

23

Happy Birthday!

HCC's favourite *Buffy the Vampire Slayer* and *Angel* hottie, Charisma Carpenter, turns 41 today! Mark the date by revisiting *The Expendables*, where she has a supporting role as Jason Statham's love interest

25

Rango

Filmmaker Gore Verbinski reunites with Johnny Depp for this seriously weird computer-animated homage to the Western. Out on DVD and BD in the UK from today.

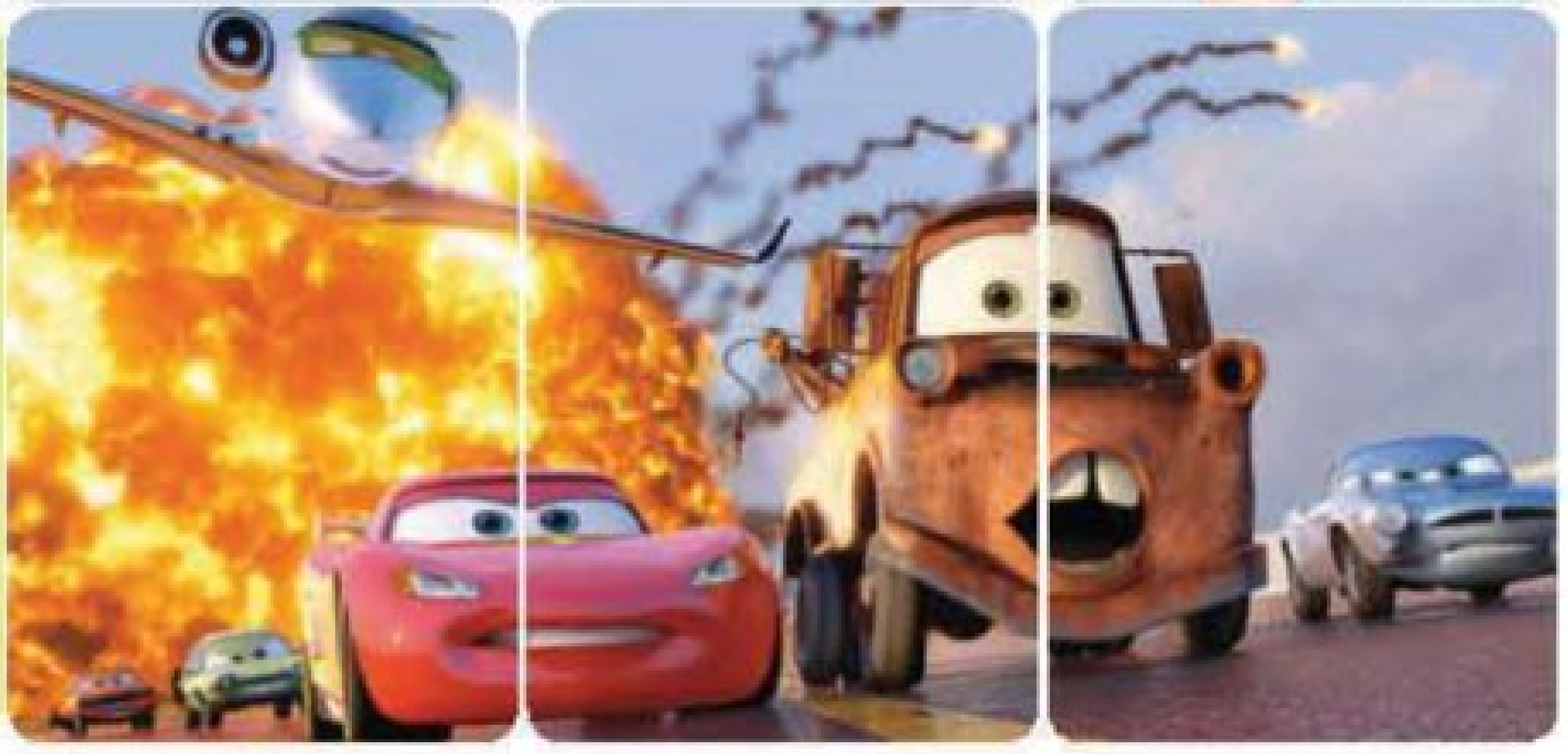
www.paramount.com

28

HCC #198

Your favourite home cinema magazine hits the stands this Thursday, packed to the gills with hardware tests, features, outspoken opinion and full-on software reviews.

www.homecinemachoice.com



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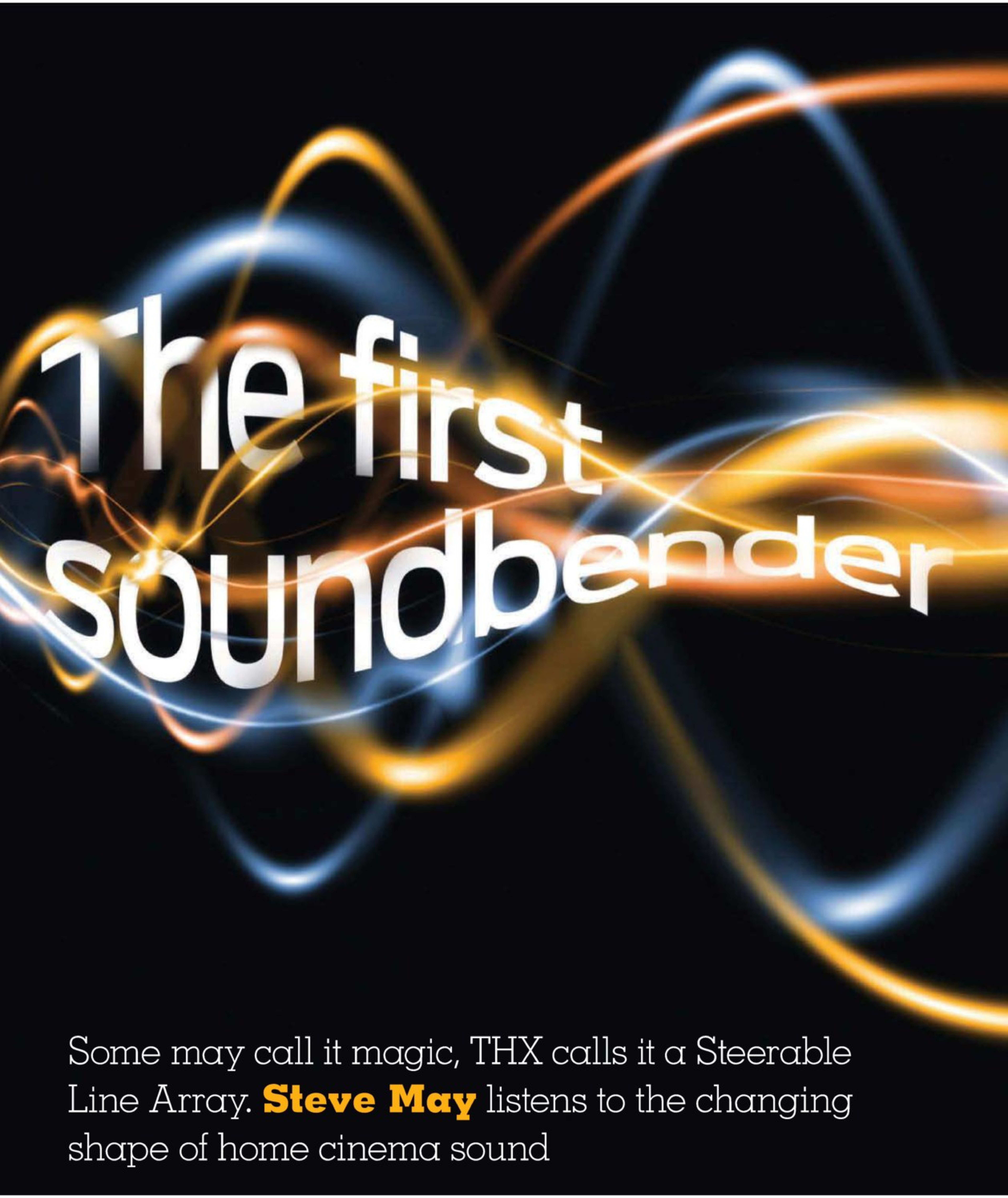
The first soundbender



Some may call it magic, THX calls it a Steerable Line Array. **Steve May** listens to the changing shape of home cinema sound

MAIN IMAGE: ©ISTOCKPHOTO.COM/RONTECH2000

Top: THX audio wizard Laurie Fincham with a mock up of his new tech; Left: Tex, brand mascot

Laurie Fincham grips a long piece of plastic, divided by strips of yellow tape in his hands and flexes it. Before him, spread out on a table, is a selection of diminutive components: a paperback-sized amplifier and some small flat-ish drivers. It's an unlikely collection. The last thing it looks like is the future of sound.

In predictably bold fashion, Fincham – Senior VP at THX – has invited *HCC* to witness what appears to be nothing less than the radical reinvention of home audio. Imagine a sound system that can be incorporated into walls or curled inside furniture, and which takes up precious little space because it doesn't require conventional enclosures (indeed, all it needs is a small slot opening – denoted by the yellow tape on the plastic strip) for a tiny driver to fire through. Now imagine multiples of these slots, running either horizontally or vertically, driven by electronics able to steer each one individually. It's multichannel sound, but not as we know it.

'We call it a Steerable Line Array,' Fincham tells me. 'But that's not its name; we don't actually have a name for it. Internally we call this (gestures at a unit on a wall behind him) the SLA-100, but that's only an internal working title. In fact, we haven't talked about this from a marketing point of view at all yet. What we want to do is show what it can do. See if the thumbs are pointing up or down.'

Science of sound

Laurie Fincham has been with THX for over a decade. A Life Fellow of the Audio Engineering Society (AES) (and *HCC Hall of Fame* member), he came to the brand with 25 years as technical director for KEF Electronics and a run as Senior Vice President of Engineering at Infinity Systems behind him. And like any technologist with the keys to the toy cupboard, he continues to play.

It was Fincham who took Tomlinson Holman's original concept for THX sound and applied it to new media and evolving audio technology. Back in 2001, he introduced the THX Certified Multimedia Program, which applied THX quality standards to PC peripherals such as desktop speakers; he then rewrote the cinema-sound rulebook for THX Ultra and its smaller room variant THX Select.

More recently Fincham was responsible for the Razer Mako, a desktop audio system which employed inventive downward firing drivers. His so-called THX Ground Plane and Slot speaker technology was designed to allow drive units to be positioned very close to the desktop surface. Now he's taken elements seen in that Slot speaker system and turned them inside out.

Fincham is keen to stress that what he's showing me is not a product, just an idea. He hands over a small, flat-ish speaker driver. 'This is full-range, and goes from 30Hz-20KHz,' he says proudly. 'It's a building block, a brick that can move air – but it's not a product. If I take a lot of these I can control the direction of sound. With such a device I can go down to 30Hz, so I don't have to have a subwoofer. Of course, if you want to use one that's fine – but it's not necessary.'

On a wall behind Fincham is an early working sample of his Steerable Line Array. 'On this array we use 92 drivers, with each tweeter individually addressable,' he says. 'You can arrange the array any which way. If you're in the cinema you would have a vertical array to steer sound to reach the back of the auditorium. But in a home, we're mostly sitting and listening at the same height, so the device would be horizontal.'

The amp powering the array is particularly interesting. 'There's not a single large capacitor on the board, and there are no inductors,' says Fincham. 'What we're trying to do is make things practical. We just made it out of simple off-the-shelf bits. What we have is a technology that's totally scalable.

'The secret is in the driver stage and the control system. You could have a 300W amp or a 3W amp. The amplification we have here could be the size of a postage stamp by the time a product comes to market.'

Perhaps surprisingly, this amp module is analogue, not digital (switching Class D). 'If analogue works, why switch?' he reasons. 'It can run all day and not get hot. It doesn't get hot because standing and dynamic dissipation is negligible. The trick is not what it can do at minimum and maximum power. It has the lowest distortion of any kind of amp you're ever going to find. I would say it's lower than anything I've ever seen in print. It's flat to 150KHz and has the lowest noise ever. And it can run off a battery.'

But the physicality of Fincham's Steerable Line Array is only half the magic. The rest is in

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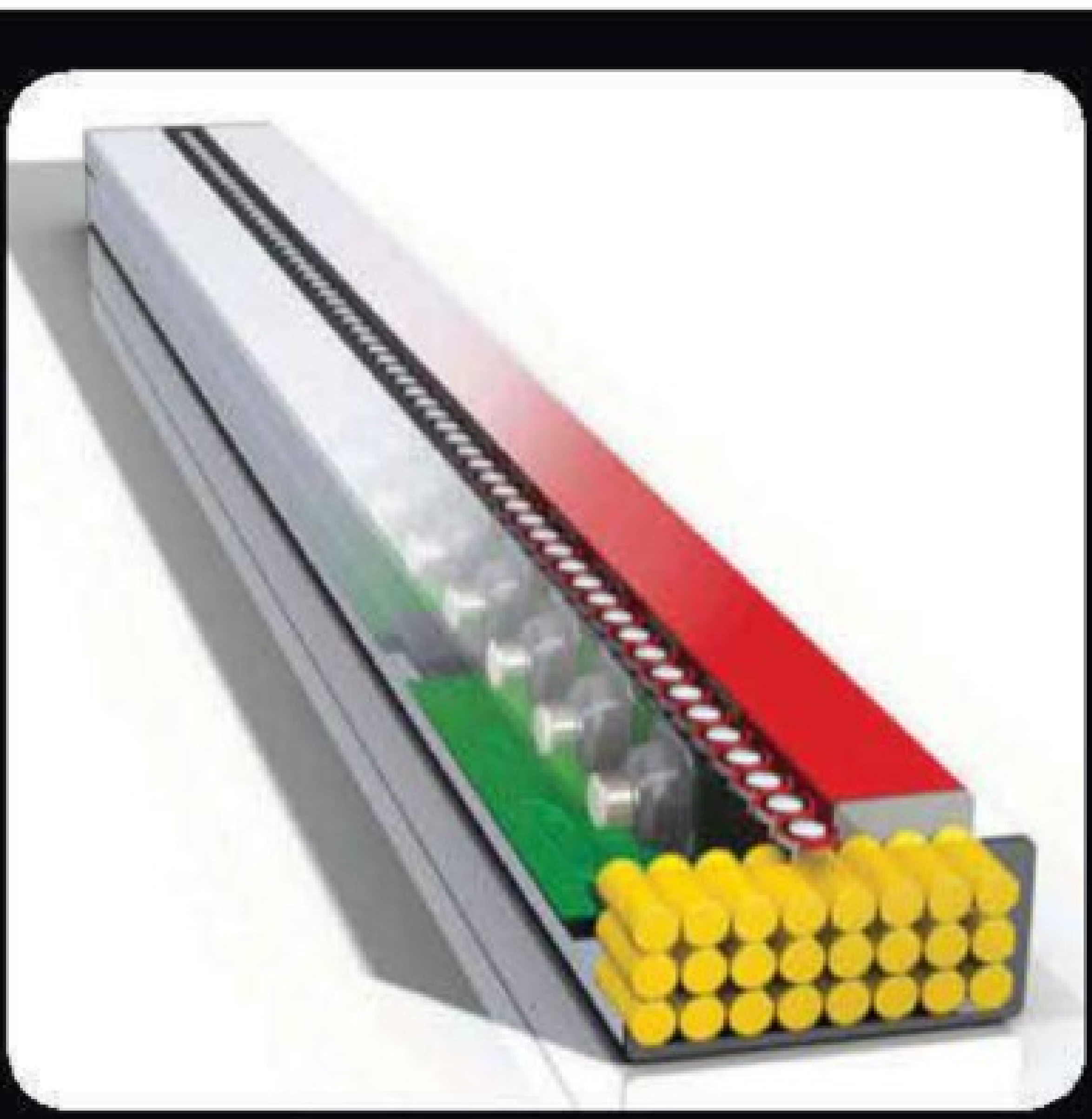

The SLA 100 prototype demo'd at CES features 92 drivers with 60 tweeters and 32 woofers, each driven by separate analogue amplification

the control software. If allied to motion tracking hardware, the system has the potential to dynamically track a listener around a room. 'You could walk wherever you wanted to go and the sound would follow you.'

Personal audio

For our demonstration, the directionality of the array is entered into a PC manually. But it's not a stretch to imagine it melded to a Kinect-style device.

'The speaker itself could be directional. You might want to physically control it, so that you and your friends have your own private sound beam. You might think that if you're sitting nearby you would hear it. But the brain makes sense of what it hears and tunes out what is not useful to it. Volume and clarity would be reduced to a point where someone else in the room might not hear anything at all.'

As part of the demonstration, I'm sat to the left of the working speaker array, and music plays. From my position, I hear a full volume stereophonic soundstage. It sounds perfectly normal. But when I swap my seating position to the opposite side of the room, I can hear only a low level monophonic noise – as if the sound is coming from another room.

Fincham says that most of us already tune out a large part of a room when we are listening to music or movies. 'All this effort to do full-range RoomEQ is probably unnecessary,' he muses. 'There were good speakers before DSP. DSP was best used for low frequency. Of course, there's more to it than just that. It's about how we hear things.'

Fincham says that he and his team have no preferences about what the technology might evolve into. 'We actually don't care. As I say, this is not a technology. If a manufacturer wanted to build this into a screen we could do that in a couple of weeks. What you see here is the hard part, the direction control.'

He bends the plastic strip so that the little yellow pieces of tape are facing a different direction. 'What I'm doing at the moment is showing you what's possible,' he says. 'The actual application is left to the individual; they can build something for PC use or home entertainment. There are no rules. We're just making an engine. The car you build is up to you.'

I can't wait to take one for a drive ●

Taking optimisation to a whole new level

2011 was the year of Smart TV, but, with THX in charge, 2012 could herald the dawn of Smart Content

Why should you have to optimise your TV for the best possible picture yourself when a pre-programmed Blu-ray disc could do it for you? That's the question being posed by THX and its new Media Director initiative.

I first came across THX Media Director several years ago, back then it was known as Project Blackbird. The (simply brilliant) idea behind it is that metadata in software wouldn't just be about artist and genre labelling, it would also contain data able to optimise your playback device and TV so that you would always see the content looking as its creator intended.

'In many ways, it's an extension of what we've always done with media in the home,' explains Rick Dean (pictured), Senior Vice President, THX, 'be it on Blu-rays, DVDs or LaserDiscs.'

The top brass from THX are currently on a mission to convert both hardware and software companies to their cause. 'Media Director creates a bridge between the content and the devices,' says Dean. 'Being able to have content describe itself directly to a device leads to an enhanced viewer experience. And a great viewer experience is what George (Lucas) put us on the map to achieve all those years ago. That was for home cinema, but now what we have is an environment which is far more complex than anything seen in the past.'

So just how does Media Director work? According to Chris Armburst, Technical Program Director at THX, it's all down to 'the transport layer,' the road metadata travels from one place to the next.

'The key is that during content creation, we start collecting that metadata – or content descriptors as we call it – and when the media is authored then the metadata follows along. In DVD and Blu-ray for example, there would be a little file just a few kilobytes in size, which sits on the disc. A Media Director-enabled disc-player would look for that file. It would be able to work out what the content is and what it should do with it. The disc player would then insert the content descriptors into another transport layer, HDMI, which goes to the TV. A Media Director enabled TV would be looking for that metadata also.'

THX MEDIA DIRECTOR

It all sounds wonderful, but I can forsee a problem. Doesn't this boil down to a lot more work for content creators?

Rick Dean doesn't agree. 'That may have been the case four years ago, but today the worktools are such that we've easily integrated this. When you're creating and moving media, you have to know this stuff already. In a lot of cases, it's written on the tape; it's written in the liner notes of the tape case; it's in a spreadsheet.'

The THX VP says it's time to start making 'all this happen seamlessly.' He says he wants to give the consumer a 'lean back optimisation instead of a science project.'

With THX Media Director, he adds: 'you would always see the depth of contrast and intensity of colour which are part of the artistic intent, the emotional impact that is programmed into the look and feel of any movie. It would be like having the director personally tune your TV.'

work of art

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4K projection comes home

Meridian's 810 Reference Video System gives **John Archer** a glimpse of the rosy future of AV

As I trundled down the A14 towards Meridian's Huntingdon HQ, I was thinking of a very big number: 140,000, to be precise. This just kept tripping through my mind on a kind of loop. Why this number on this particular day? Because it's the amount of British sterling you need in order to buy the object of my Huntingdon jaunt: Meridian's 810 Reference Video projection system.

Considering that you can now get respectable projectors for as little as a grand, you can appreciate why my attempts to predict the day ahead weren't getting any further than the Ferrari-rivalling price. Imagine my surprise then, when, on the return journey, I suddenly caught myself thinking 'who needs a bloody Ferrari when you can get a Meridian 810?'.

Upon arriving at Meridian, with my sceptic's hat firmly in place, I was greeted by the company's Director of Business Development, Roland Morcom, who settled me down outside Meridian's 810 demo room for a little scene setting.

During this initial chat, it became clear exactly what sort of world the 810 system belongs to. Meridian runs a demo service for the projector whereby they will pick up potential customers from their home or the airport (people really have been known to fly in from abroad just to see what the 810 can do), bring them to the demo room and, hell, even buy them a nice lunch. This surely beats popping into Comet.

Incredible hulk: Meridian's 810 Reference Video Projector weighs 60kg

MERIDIAN
MERIDIAN

Meridian's Cambridgeshire headquarters

Incredible Hulk

Vague thoughts about why Meridian doesn't just ship out more demo units were immediately dispelled when I got my first glimpse of what can only be called The Beast. For the 810 is far and away the biggest projector I've seen outside of the commercial digital cinema market; a huge, hulking 60kg brute, clad in deep black and looking sublimely and indefatigably serious. This is absolutely not a projector you're going to pop on a coffee table, unless that table is made of reinforced steel and/or you're barking mad.

In fact, Meridian knows of only one 810 system that's even been installed in the same room as the screen it's pointed at, with the wealthy folk who buy them usually housing the projector in a separate booth or room.

Having established categorically that the 810 satisfies anyone who likes to get a lot of 'real estate' for their money, the next questions that have to be answered are what's going on inside and why that matters, to the tune of £140K.

At the very heart of the 810 are three JVC D-ILA projector chips. But these are no ordinary D-ILA chips; these 1.27in chips somehow accommodate resolutions of 4,096 x 2,400 pixels. This, crucially, makes the 810 the only home projector we know of that can handle the new 4k2k resolution currently only found in the world of commercial digital cinema projection, but which is starting to be talked about in hushed tones for the home market, too (see the box out, p29).

If you do the maths on the 810's native resolution, you get to 10megapixels (and this is a true 10Mp resolution in that it's delivered from

Art Cinema (www.artcinema.nl) has this Meridian 810 Reference Video system in its Enkhuizen showroom in Holland

MERIDIAN
810 REFERENCE VIDEO PROJECTOR
MERIDIAN

MERIDIAN
HDMI
1080P-60
Home
Input
Disp
Off
Setup
More

Ultimate upscaler: The 810 scaler can blow up your Blu-rays to a 10 megapixel resolution

each D-ILA chip). That's a whole 20 per cent more resolution than you would even find inside a '4k2k' (4,096 x 2,160) digital cinema projector.

Why does resolution matter so much to Meridian? It's very simple, actually. Whenever you're using a digital projection system rather than an analogue, celluloid-based one, you're dealing with individual pixels and the spaces between those pixels. This means that if you pull your projector back to try and deliver a bigger picture, you're making each pixel and the spaces between them bigger, degrading image quality in the process. So if you want to get closer to delivering the 'purity' of an analogue, celluloid image from a digital projector on a truly cinematic scale, you're going to need more pixels. The more pixels you have, the closer you'll be able to get to recreating a pixellation- and line-free analogue experience.

Unfortunately, for Meridian, though, having decided that resolution had to be king for its flagship 810 projection system, equipping it with ultra high resolution D-ILA chips was just the first step down a whole motorway of technical pain.

For a start, creating a lens capable of handling the insane resolution delivered by the 810's optics is incredibly difficult; the medium throw lens option Meridian offers comprises 17 different elements and takes an astonishing three months to cool fully, since cooling it any faster would result in tiny crystallisation errors in the glass that could prove disastrous to images as detailed as those of the 810.

Then there's the fact that currently even the best quality mainstream video source can only deliver a native resolution of 1,920 x 1,080. This effectively means the 810 needs to upscale the resolution of even a Blu-ray by an astonishing 400 per cent to fill its native pixel count. You only have to look at what a shoddy job many Blu-ray players and TVs make of simply upscaling 480 or 576-line video to 1080-line video to appreciate the size of the problem Meridian faced.

Needless to say, it quickly became apparent that no pre-existing video upscaling engine was going to be up to the job. So Meridian had to build an engine more or less from scratch, ending up

Resolutions

A NTSC SD
This 720 x 480 resolution is the format used by US DVDs

B PAL SD
PAL (720 x 576) increases the vertical resolution by nearly 20 per cent

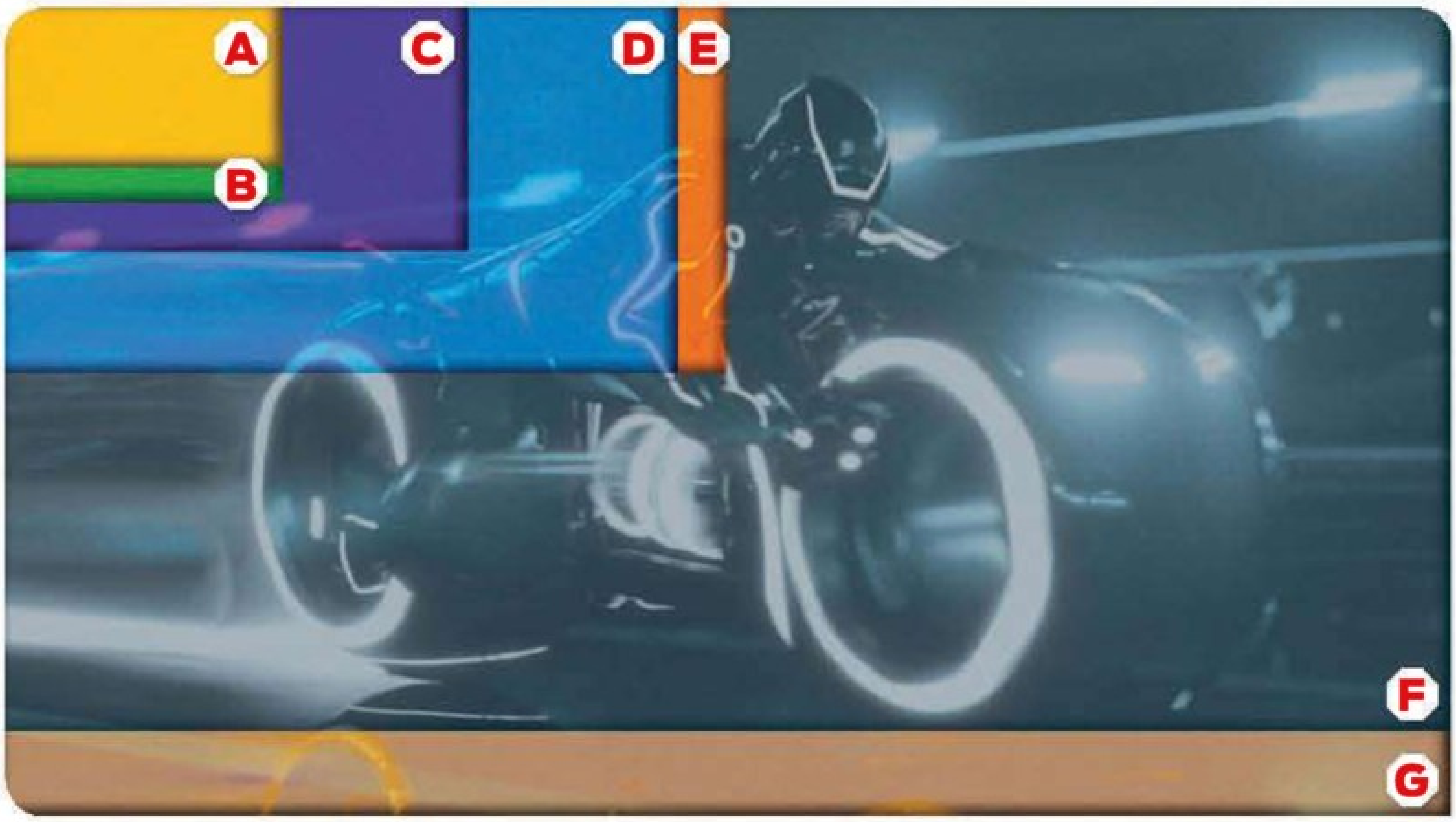
C HD 720
1280 x 720 is the common HD resolution used in American broadcast TV

D HD 1080
The full HD resolution of your Blu-ray collection, 1920 x 1080

E Digital Cinema 2K
A 2048 x 1080 format used in digital cinemas

F Digital Cinema 4K
This 4096 x 2160 format offers four times the resolution of its 2K counterpart

G Meridian 810
The Reference Video projection system offers a 10megapixel 4096 x 2400 resolution



Blow up your Blu-rays

The future of home cinema is 4K – and this pixel-packed paradise might not be as far away as you think

Although the 810 Reference Video System is well ahead of the curve with its enthusiasm for picture resolution, the rest of the AV world is starting to appreciate it, too.

At the source end, Onkyo has, rather remarkably, included Marvell Qdeo processing in a some of its 2011 receivers, including the £500 TX-NR609 (pictured). Don't expect this to deliver the same results as the Meridian processors, despite Marvell's involvement, since the level of power available to the receivers won't even be in the same league. But it's a very interesting development nonetheless.

At the display end, meanwhile, the drive towards glasses-free 3D TVs seems to be accelerating the production of domestic 4K2K TV screens, with Toshiba promising a 55in 4K glasses-free 3D TV you should be able to partner with your new Onkyo amp at some point within the next 12 months.

It remains to be seen if the 4K advantage really pays off on 'normal'-sized TV screens. So far, it's only been properly demo'ed on projectors or really massive (100in plus) screens, like Panasonic's TH-152UX1.

But for today, at least, to hell with all the caveats. Our experience with the Meridian 810 has got us feeling so giddy and giggly about the whole 4K thing that for now, at least, we simply refuse to countenance any negativity. So there.

with an array of multiple Qdeo processors from scaling guru, Marvell, driven by a proprietary microprocessor. Obviously the resulting 810 Scaler box forms part of the 810 Reference Video System package you get for your £140k.

Even once you've got a scaler that's able to successfully upconvert standard and hi-def images as far as the 810 projector requires, there's still another problem raised by the sheer amount of data you're dealing with. No cabling option can currently handle 10Mps of picture data. So the 810 has to divide its image into seamless quadrants, with each section delivered via its own dedicated DVI cable.

And while it's all well and good adding enough resolution to deliver a flawless, analogue-like image from a digital projector, you also need to make sure your projector has enough brightness to drive a big screen. Cue the 810's colossal 4000 Lumens of maximum light output, delivered by a PKI Xenon lamp.

Precious few people will actually experience this maximum brightness, since each 810 system has its brightness calibrated to best suit the surroundings it's being placed in. But the fact that such a lumens figure is possible is terrifying enough.

Pre-ship tuning

The single greatest tribute that can be paid to the 810 System, though, is that when you actually sit down and watch it in action, you completely forget about all the high falutin' technology that's gone into it. Why? Because with HD sources in particular (especially the remarkable Blu-ray release of *Patton* I became mesmerised by during our visit) its pictures are so flawless that you just do as you would at a commercial cinema, and get completely lost in the film.

The image shown on a 122in Stewart Filmscreen Studiotek 130 screen suffered with no visible pixel structure, even if I buried my face practically in the fabric. Motion looked completely natural. Colours looked extraordinarily intense for a home cinema projector, but never became unnatural or unbalanced. **As for the image's brightness, it's in a different world to anything I've seen elsewhere, even from the likes of high-end brands such as SIM2**. And there's no trace of the horizontal line structure usually seen on big screens fed by 'normal res' projectors.

Unquestionably the most mind-blowing aspect about the 810's images with Blu-ray, though, is the fact that they look so completely natural and so sharp, despite 80 per cent of their pixels being conjured up by Meridian's processing. You'd swear that every pixel being shown onscreen must have been there in the source after all, as they all seem such perfectly natural neighbours to all the other pixels around them – including the occasional 'real' ones that crop up every now and then!

Now, I'm all too aware that many of readers treat any sort of processing with suspicion. This is a position that Roland Morcom not only understands, but sympathises with where mainstream kit is concerned. However, as he points out, you can't watch films in their original analogue celluloid incarnations in your own home. They have to be digitally distributed. And once you enter the realm of digital distribution, trying to get digital film transfers back to looking like their original analogue versions on big screens becomes essentially a matter of adding resolution.

And it's in toiling so hard toward this extra resolution goal that the 810 delivers its ultimate and life-changing revelation: that there's video processing and there's video processing.

If 4k2k really does become the future of AV at some point – and it surely will – then on the basis of what the 810 has shown me, movie fans have every right to be feeling very excited indeed about what lies ahead. Of course, if you're not short of a few bob, you could always just get yourself an 810 Reference Video System now, and live it up with a projector that already feels a generation ahead of the next generation ●

Garage banned

Anton Van Beek admires one man's single-minded dedication to turning his former car port into a home cinema

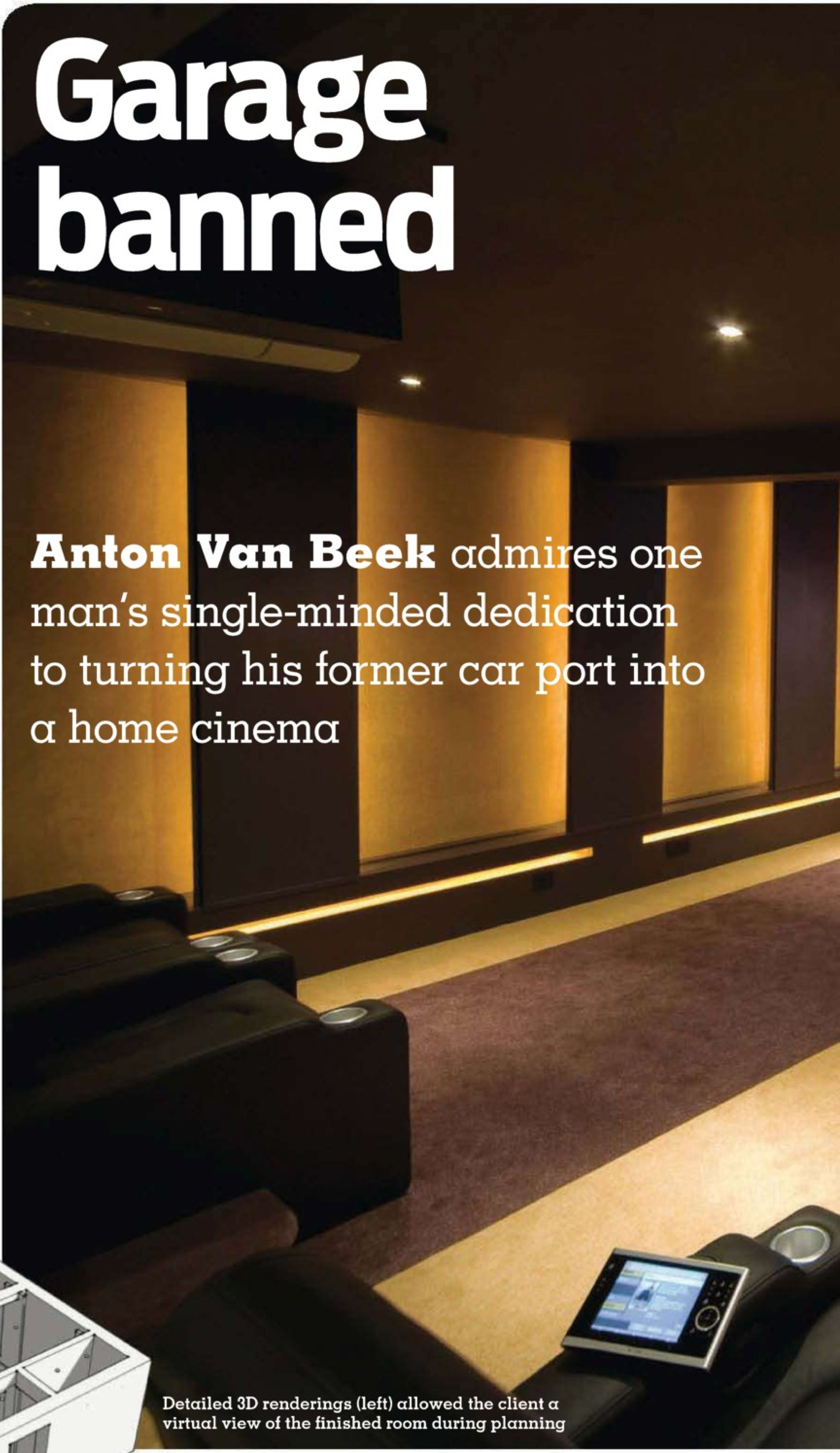
The owner of this good-looking home cinema originally approached HCC award-winning home technology specialist, Finite Solutions Ltd., while searching for a high-end surround system to complement his existing living room. But after being invited along to experience Finite's showhouse and get a better idea of what the company could offer, he decided that a dedicated home cinema room was the only way to go. Sounds like quite an expensive day out.

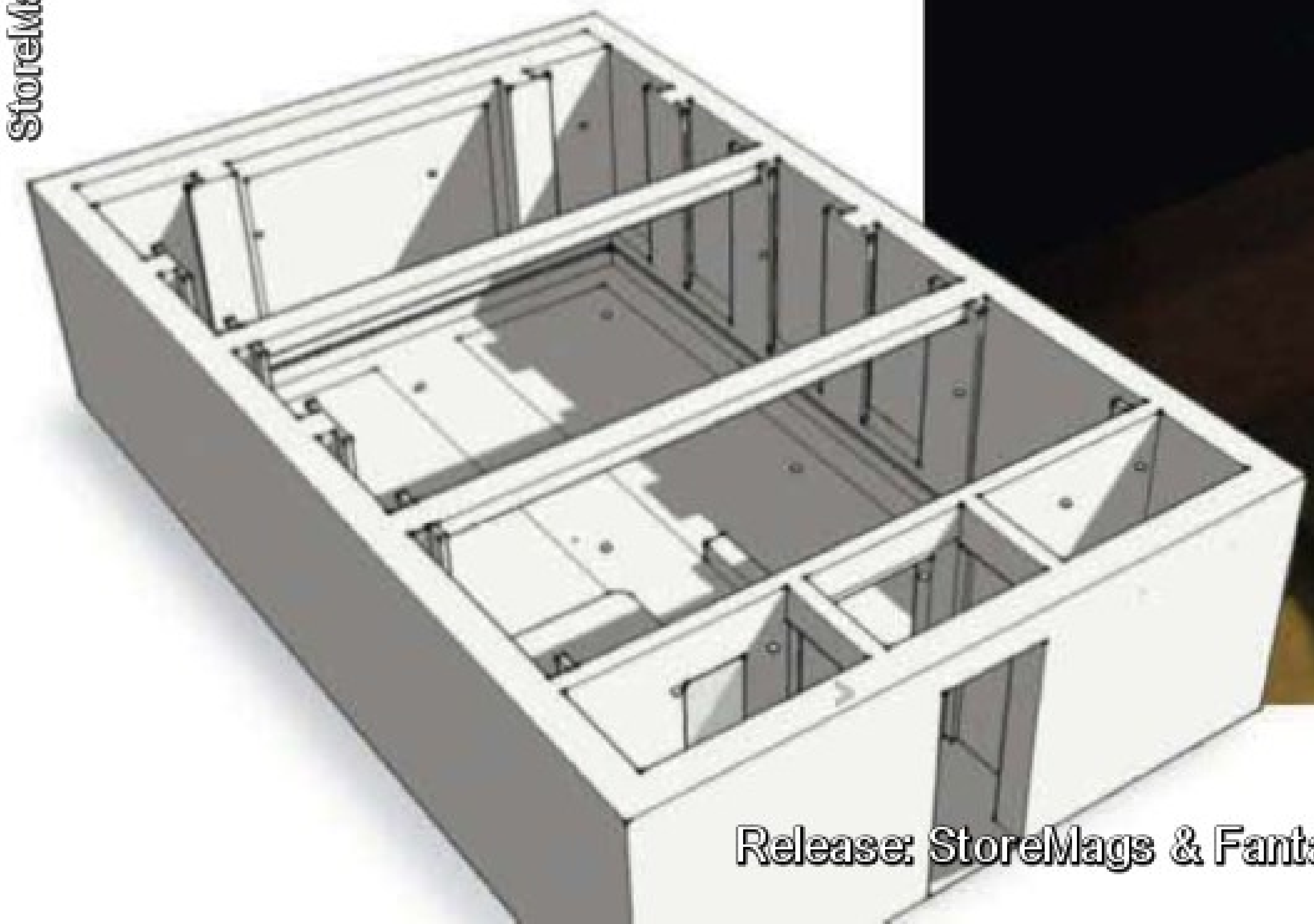
Working to a brief that specified seating for eight people with a cinema system that would be able to access an extensive DVD collection, as well as live sporting events and Blu-ray content, the team had to reject the room originally proposed by the owner, believing that it was 'insufficient to deliver the level of cinematic experience desired'. Instead, it was decided to make use of a double garage on the property.

Given the sizeable DVD collection, the decision was made to utilise a 1.5TB Kaleidescape system to store and playback the content without having to swap discs all of the time. Meanwhile high-definition material would be supplied by a Denon Blu-ray deck and Sky+HD, both plumbed into a high-end Runco PJ .

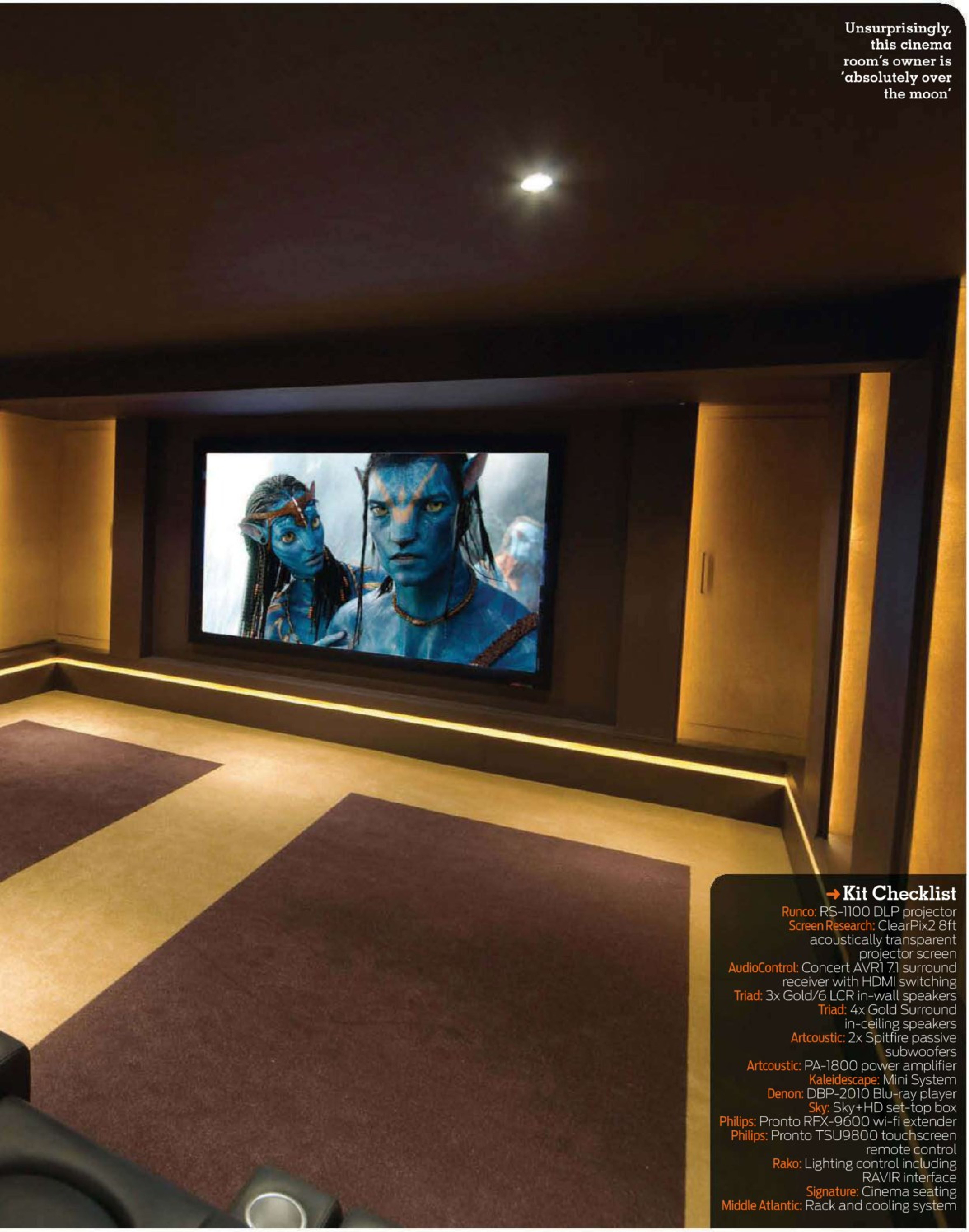
Triad speakers were selected for the room because of what the install team call their 'reference level performance', high sensitivity and dispersive nature, which makes a sweet zone, rather than a sweet spot, to encompass the inner two rows of seating across the central aisle. Finally, two Artcoustic Spitfire subwoofers were chosen to partner the Triads.

The entire project, including building, interior design and installation took less than a month. And the owner is so impressed with the team's performance and the finished room that he's now commissioned Finite Solutions to design and install a games room. >





Detailed 3D renderings (left) allowed the client a virtual view of the finished room during planning

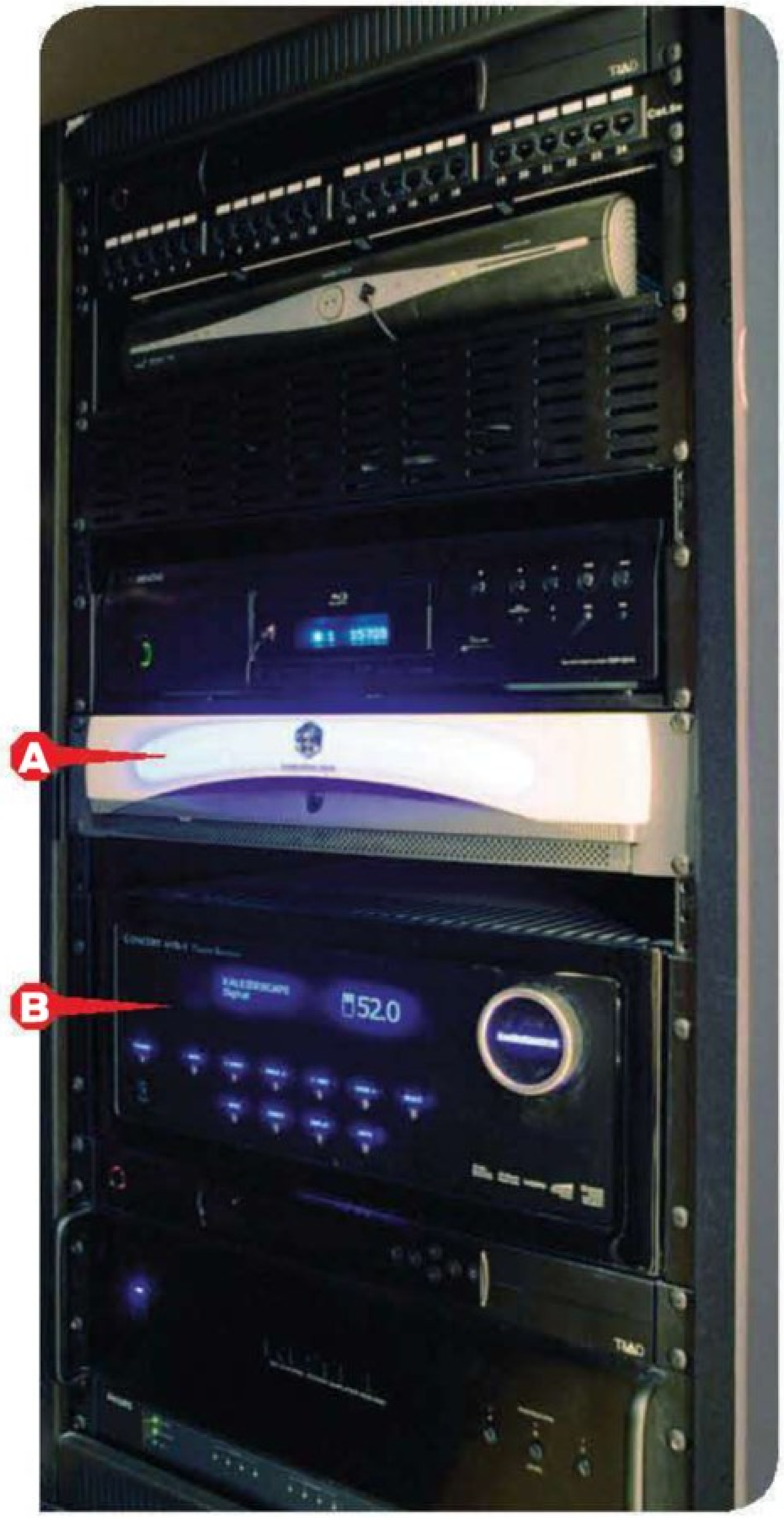


Unsurprisingly, this cinema room's owner is 'absolutely over the moon'

→ Kit Checklist

Runco: RS-1100 DLP projector
Screen Research: ClearPix2 8ft acoustically transparent projector screen
AudioControl: Concert AVR1 7.1 surround receiver with HDMI switching
Triad: 3x Gold/6 LCR in-wall speakers
Triad: 4x Gold Surround in-ceiling speakers
Artcoustic: 2x Spitfire passive subwoofers
Artcoustic: PA-1800 power amplifier
Kaleidescape: Mini System
Denon: DBP-2010 Blu-ray player
Sky: Sky+HD set-top box
Philips: Pronto RFX-9600 wi-fi extender
Philips: Pronto TSU9800 touchscreen remote control
Rako: Lighting control including RAVIR interface
Signature: Cinema seating
Middle Atlantic: Rack and cooling system

StereoKings.com



Room essentials

A DVD on tap
The 1.5TB Kaleidescape system means the owner doesn't have to pop back to the house to grab a disc every time he wants to watch another DVD

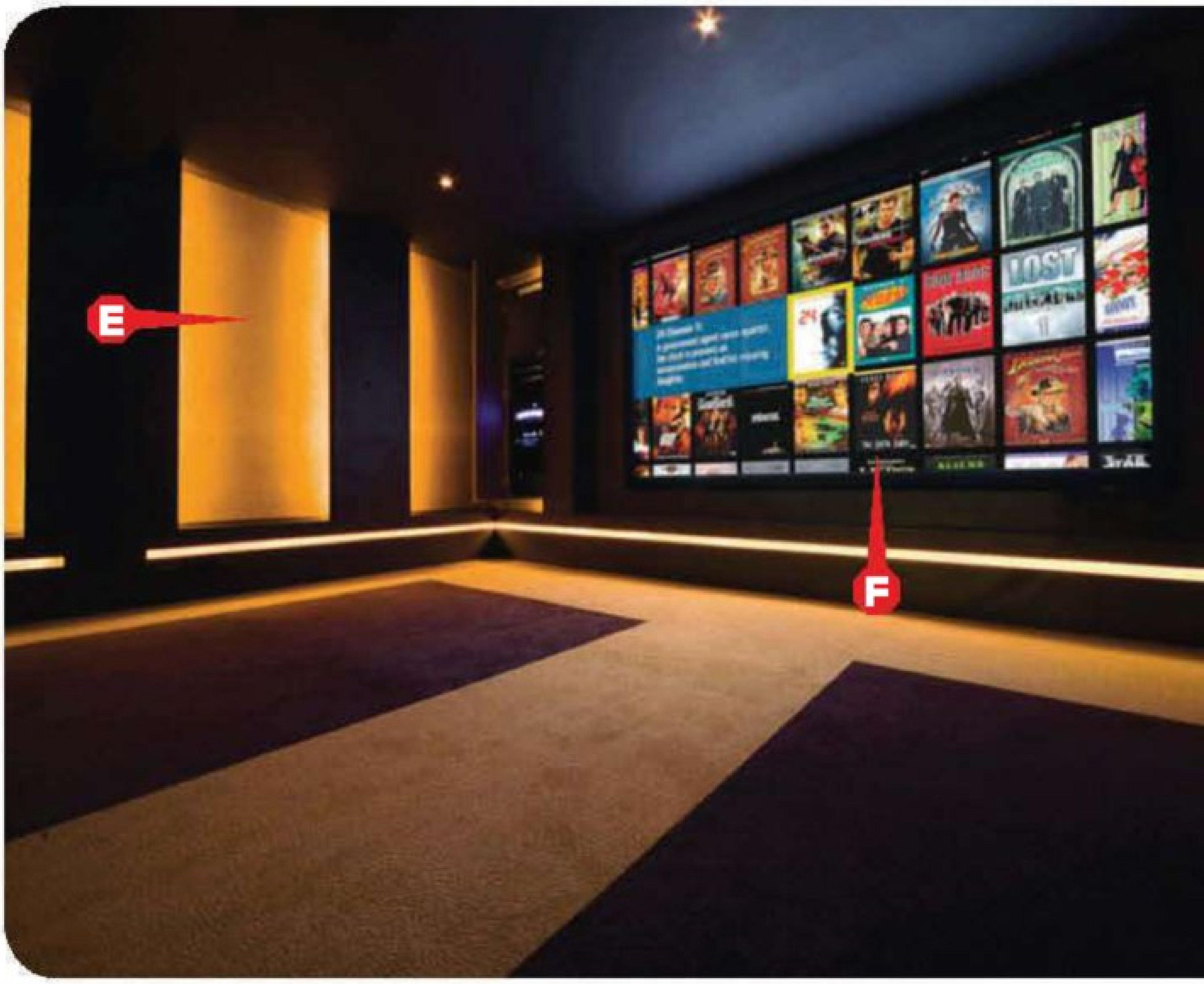
B Beefy amp
AudioControl's premium Concert AVR-1 utilises the company's legendary Class H amplifier to provide 120W-per-channel muscle

C Ease of use
Despite being familiar with the 9600 model, the owner opted for a Pronto 9800 for his own cinema – as the larger screen makes it clearer and simpler to use for his children and guests

D Going for gold
Selected due to their high sensitivity and good dispersion, a quartet of Triad Gold in-ceiling speakers take care of the surround duties in this 7.2-channel system

E House lights
Backlighting on the acoustically-treated wall panels not only makes them look attractive, but provides discrete illumination ideally suited for an intermission

F Big screen thrills
The owner initially thought the planned 8ft screen was too big for the room, but after experiencing a virtual first-person view via a 3D rendering of the room, he soon changed his mind...



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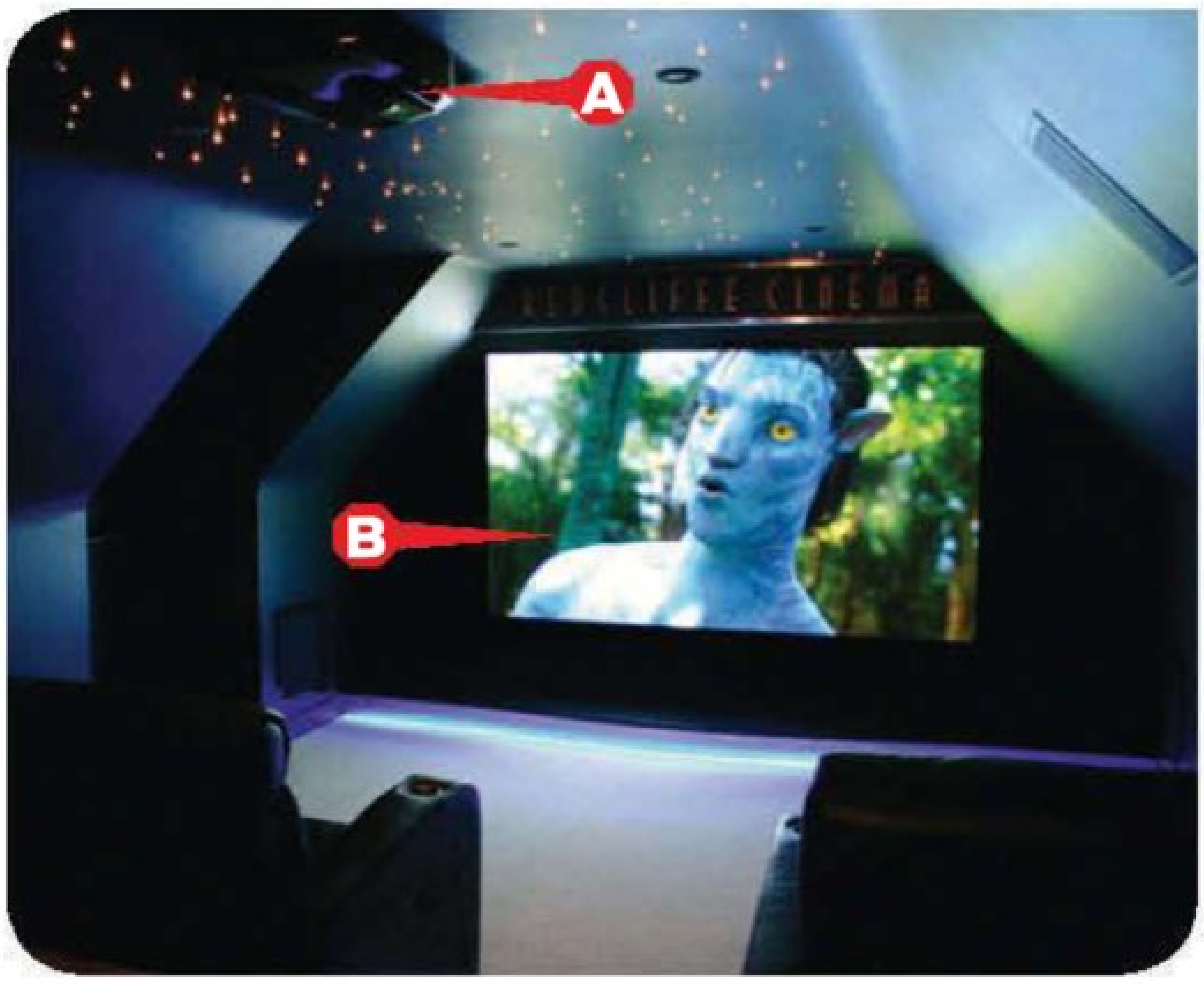

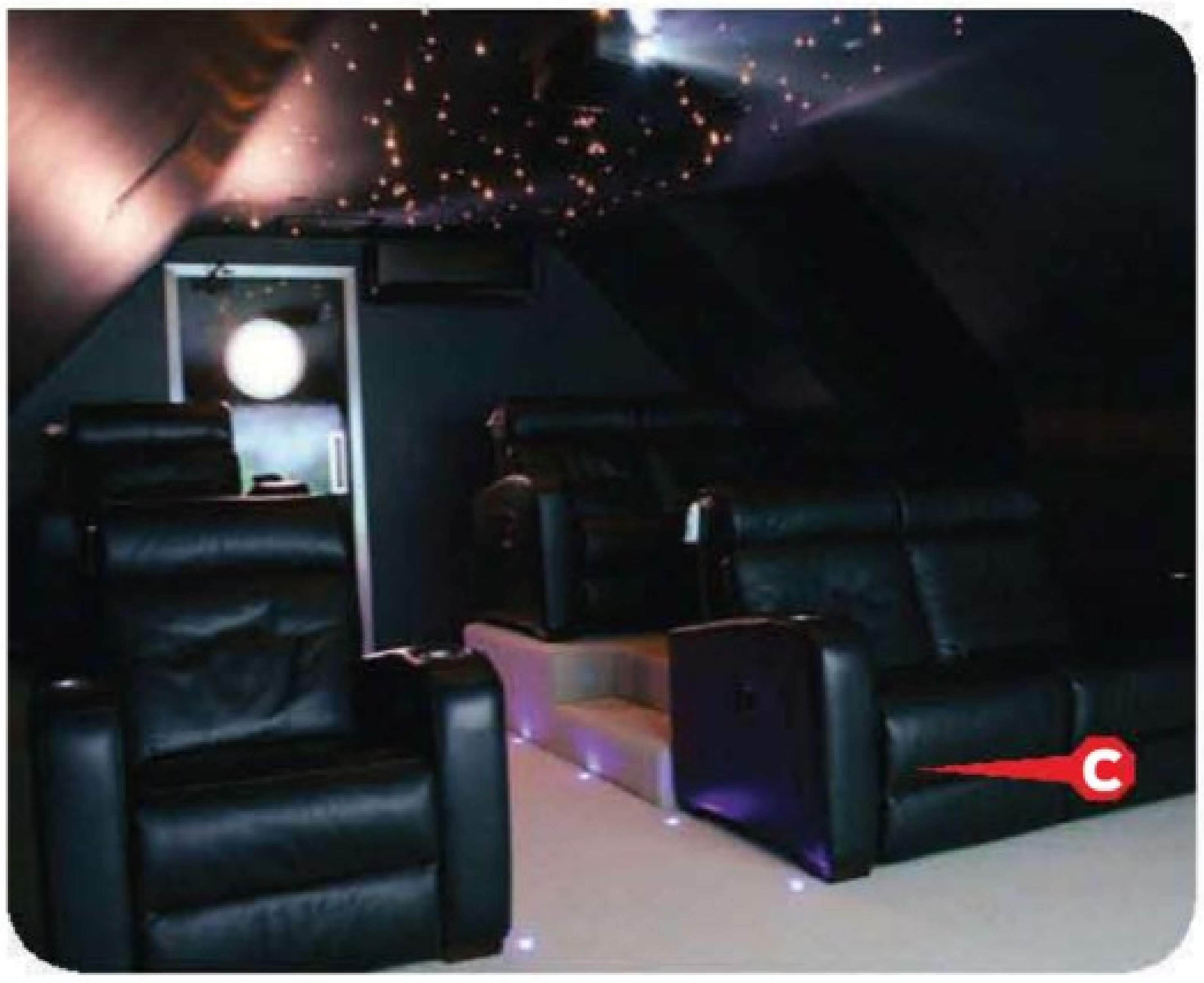

Did it his way: AV-holic Justin says he saved money by designing the room himself

Introduce yourself...
My name's Justin Franklin. I'm 39 and based in Brundall, near Norwich.

Judging from your cinema room you're certainly an AV-holic...
Yeah. For many years I have wanted my own cinema, but until a recent house move, I haven't had the space to do it. The previous owners of our new home ran their business from the house they had their office above the garage, which was perfect to convert to a cinema.

I started researching online as the shape of the room was a bit of a challenge as it restricted the screen size and height. I sourced the Front Row cinema seating from Kent Home Cinema, then contacted Martins HiFi in Norwich for suggestions on the AV equipment.

One of the biggest challenges I had was finding dimmable LED marker lighting that could be installed into carpet, as well as finding someone capable of wrapping the risers with carpet – they had to be hand-stitched to get a good result. After much research I found lighting for the carpet in the form of Eyeleds LEDs from Gradus. All the LEDs in the room are dimmable and controlled from the remote. So is the 'star ceiling' (from Starscape who were very helpful and made a bespoke kit) – it's inexpensive but very effective, they twinkle when you walk in the room, but as soon as you press to watch a movie etc, the stars stay on, but the twinkling stops so it doesn't detract from the screen.

We set the projector into the ceiling so you don't bang your head on it when walking up the step to the rear seats. I could find no guidelines for the height of the risers to allow clear viewing from all seats, or how much space to leave between seats, so I ended up purchasing two of the seats before anything else, made a mock up of a riser that I could raise and shorten the legs on, marked the screen size on the wall and spent many hours with different-sized people, moving things around until

Room essentials

A Twinkle, twinkle...
The 'star ceiling' is integrated into Justin's intelligent lighting control

B Setting the Scene
Optoma's ThemeScene HD82 is in charge of the HD visuals

C Maximum comfort
'A big expense but worth it' – Front Row cinema seating

D Nerve centre
The kit rack houses the Pioneer AVR and multiple sources

E All rise
Getting the height of these risers correct was a case of trial and error

F Hidden audio
Preparing for the LCR in-wall speakers

G In the foyer
Guests can admire film posters on their way up to the room

Join the club

Do you want to see your home cinema system featured in the pages of *Home Cinema Choice*? If so, log on to www.homecinemachoice.com/avholic where you'll find all the information you need.

I got it right. I'm pleased to say that you can see clearly from all seats.

What other problems did you encounter?

When you are doing a home cinema install in the UK, you are very limited on the fitting equipment, seats, etc, available. You cannot buy backlit movie poster cases anywhere (or you couldn't at the time) so I had them made by a display company in the UK which worked out much cheaper and safer than shipping them over from the US. I had the signs made by a carpenter friend, who also cut out the stainless steel letters above the screen, skirting and cinema sign outside the door. He also made the surrounds for the in-built fridge, AV cabinet and subwoofers (which we covered in acoustic cloth).

One challenge we had with the stainless steel was caused by the LED rope light, set under the stage to give that nice light glow on the floor. When we first put it in the stage, the steel reflected the LEDs in vertical strips which looked awful. By chance we found that if you brushed the stainless the other way, it didn't happen at all.

To finish off I had Martins HiFi come to install the AV equipment and set up the lighting with the Rako control and remote. The results are amazing! The sound and picture are fantastic!

Do you have any top tips for people looking to get their own cinema room?

Well, I didn't have an unlimited budget for the room but saved a fortune by sourcing everything myself, and designing the room myself, too.

What's in your setup?

The projector is an Optoma ThemeScene HD82, firing at a 104in perforated screen. The 7.2 surround system uses two Bowers & Wilkins ASW610XP subwoofers, three B&W CWM LCR7 In-wall speakers and four B&W CWM 6160 in walls. These are driven by a Pioneer VSX-1020 receiver. Sources include a Pioneer BDP-LX53 Blu-ray player, Xbox 360, PlayStation 3, Apple TV 2 and Sky.

So what's next?

I currently have a Philips Pronto RU990 remote which I would like to upgrade – possibly to a Nevo, or something more modern.

How much have you spent on your AV habit over the years?

In all the project cost around £25,000 – the seats were a big expense but worth it.

And is the room getting a lot of use?

As a family we use the room all the time. It really does sound and look so much better than the local cinema, and it's far more comfortable too.

What's your current fave disc?

I recently watched the Blu-ray of *How to Train Your Dragon* with the kids and was amazed at how it sounded in my cinema. I'm also enjoying the new *Clash of the Titans* on Blu-ray.

Lastly, what's your view on 3D – exciting or a gimmick?

Exciting. The next step for me is 3D. I am reading the projector reviews with great interest, and I think it'll be fantastic in a dedicated home cinema ●

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M4
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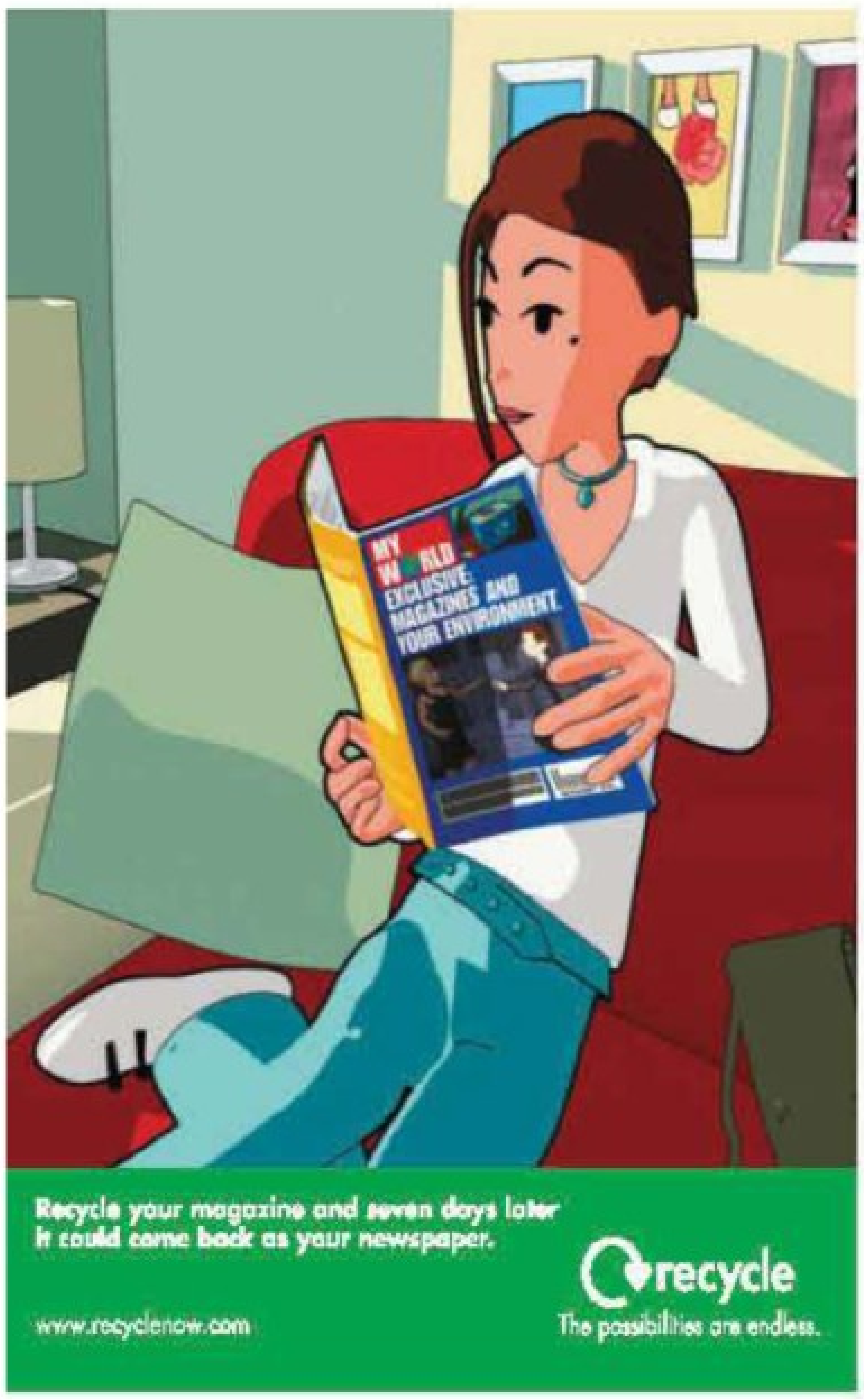

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REVIEWS

→**Hardware highlights** **PANASONIC** 55in range-topping VT30 plasma **TANNOY** Definition series surround array **OPPO** Audiophile-grade BD deck **SONY** 40in Smart TV **SAMSUNG** Debut Freesat PVR **KALEIDESCAPE** Unique Blu-ray server solution **QUADRAL** Mid-range 5.1 speaker set **ROUNDUP** Three high-end subwoofers go head-to-head **AND MORE!**

Affordable excellence

BenQ's W1100 PJ delivers eye-popping home cinema visuals – and leaves you with change from a £1,000. Cost-conscious buyers should turn to p60

HCC Ratings key

Outstanding	1 2 3 4 **5**
Above average	1 2 3 **4** 5
Acceptable	1 2 **3** 4 5
Disappointing	1 **2** 3 4 5
Dire	**1** 2 3 4 5

HCC DOESN'T BELIEVE IN OVER-PRAISING HARDWARE. CONSEQUENTLY, A THREE-STAR RATING SHOULDN'T BE CONSIDERED A BAD RESULT – IT SIMPLY MEANS THAT A PRODUCT PERFORMS ACCORDING TO ITS CATEGORY POSITION. A FIVE-STAR RATING IS ONLY AWARDED IN EXCEPTIONAL CIRCUMSTANCES

Home cinema has a new reference

The P55VT30 is the best domestic plasma TV **John Archer** has ever seen – and believe us, he's seen plenty of 'em

Panasonic has tried all manner of different TV sizes over the past few years, so I guess we shouldn't be surprised to find it delivering another size 'first' in the form of its debut 55in model.

The P55VT30 is the only 55in model announced for Panasonic's 2011 range to date, and it belongs to the brand's flagship, 3D-capable TV series. So, while we've already lauded Panasonic's new GT30 plasmas to the heavens, the P55VT30 promises even more.

The screen starts establishing its flagship credentials right away by being exceptionally slim for a plasma TV; enjoying a 'single layer' finish; and being built like the proverbial brick outhouse; wall mounters and people with weak backs take note.

I suppose some people might find the sizable bezel width a turn off, but heck, if you're up for buying a 55in TV, then another couple of inches of frame isn't really a big deal, is it?

More evidence of the P55VT30's uncompromising nature can be seen with its connections. The four v1.4 HDMIs, for instance, should satisfy even the most ambitious of AV setups. There's an LNB input alongside the usual RF jack, too, revealing that the P55VT30 carries a Freesat HD tuner, as well as a Freeview HD one. Then there are the P55VT30's multimedia connections, which comprise an SD card slot, three USB ports, a LAN port and wi-fi courtesy of an included USB dongle.

The video/music/photo file compatibility of the USBs and built-in DLNA PC network support is extensive. Plus you can, of course, take the P55VT30 online with Panasonic's Viera Connect service.

Range topper

The VT30 occupies the top slot in Panasonic's TV hierarchy, but shares much of its hardware with the GT30 range. So what, exactly, are the differences? Well, firstly, both the SD slot and the USB ports on the VT30 enable you to record from the TV tuners, whereas with the GT30 TVs you can only record to USB HDD. Also, the Panasonic USB wi-fi dongle included with the VT30 isn't included with the GT30s.

The P55VT30 ships with two pairs of active shutter 3D glasses thrown in, too, whereas you get none with the GT30s. Given that Panasonic's active spex cost around £100 each, this advantage, in conjunction with the thrown-in wi-fi dongle, explains much of the price gap between the VT and GT30 ranges.

The remote control supplied with the P55VT30 is better than that shipped with the GT30s as well. It's weightier, more attractive and has a really premium feel. You can even illuminate some of its keys, which are superbly responsive.

The other key 'extra' the P55VT30 brings to the table is an extra filter layer tucked within its screen composition, designed to deliver an even better black level response. To be clear, this comes on top of the new louvre filter and other advances found on the lower GT30 range. For full details of Panasonic's new plasma tech, check out the feature over the page.

The Viera Connect platform hasn't obviously expanded since we last covered it; there's still no sign of the promised high quality games or health and fitness tools. But highlight services like the BBC iPlayer, Eurosport, the AceTrax movie rental/ >

→ Specifications

3D: YES, active shutter
Full HD: YES including 1080p24
Tuner: YES Freeview HD and Freesat HD
Component video: YES one input
HDMI/DVI: YES four, including v1.4 options
PC input: YES one D-Sub
Resolution: 1,920 x 1,080
Sound: 2 x 6W plus 10W woofer
Brightness: N/A
Contrast ratio: 5,000,000:1
Dimensions (off stand): 1329(w) x 810(h) x 55(d)mm
Weight: 38.5kg net
Also featuring: '600Hz'; Viera Connect online service; USB media playback (MP3, JPEG, HD video support included); Intelligent Frame Creation processing; NeoPlasma technology; DLNA support; wi-fi dongle supplied; endorsed by THX and ISF; colour and gamma management; noise reduction processing; active 3D playback; 2D-3D conversion

AV/CV

Product:
A 55in plasma TV with built-in second-gen active 3D playback and extensive multimedia functionality

Positioning:
Belongs to Panasonic's flagship TV series, above the GT30 range

Peers:
Samsung UE55D8000; LG 55LW650T

HOME CINEMA Choice Reference Status

The NeoPlasma revolution

Fresh from a visit to **Panasonic's R&D facilities**, John Archer delves deep into the technology that makes the brand's new plasma TVs tick

Panasonic is so proud of the technologcal advances it's made for its 2011 3D plasma TVs that it invited *HCC* over to Japan to chat with the engineers who made it possible.

The shift to this year's NeoPlasma panel tech from last year's already fairly advanced NeoPDP technology revolves around six key innovations. These are predominantly designed with 3D in mind, but knock on into improved 2D pictures and greater energy efficiencies.

First up, there's the rather awesomely named Fish Bone ITO. Or FBI, for short. This refers to a new design for the transparent electrodes used to electrify the plasma cells, which increases the dielectric force between the electrodes so that the cells need less power before they discharge and emit their light.

This means the screen can either run on reduced power consumption or else deliver much-enhanced brightness without having to raise power consumption from the levels used by 2010's Panasonic plasma TVs.

This is particularly significant for 3D viewing, where our main criticism of Panasonic's 2010 3D plasmas was that they struggled to be bright enough when you've got Panasonic's active shutter 3D glasses on. But the new technology also seems to deliver punchier, more flexible 2D pictures.

The only shortcoming of the new FBI electrode design is that it currently only works in 42in and 46in screens – Panasonic's latest 50in and bigger models, such as the 55VT30, don't have it.

neo plasma
Panasonic

Round the clock R&D: Plenty of tech innovations are going into this year's NeoPlasma models

Faster reactions

With active 3D playback, response time is king. Which is why – despite already being well ahead of LCD in this respect – Panasonic has used fast-switching phosphors for all of its 2011 plasma series. This cuts down crosstalk, boosts motion performance and eliminates light leakage.

Contributing further to the near-elimination of crosstalk noise from NeoPlasma's pictures is the new light-emitting process Panasonic has introduced across 2011's range. In previous plasma TVs, the plasma cell 'light emitting sequence' went from dark to light. But finishing the cell's light cycle at a bright level was leading to increased 'afterglow' times, resulting in crosstalk. So Panasonic has reversed the plasma cell illumination sequence so that it runs from bright to dark, significantly reducing the afterglow time for each cell.

Next up, and still related to crosstalk, is Panasonic's new Crosstalk Canceller. This processing system works on the 3D image at the final stage before it appears on the screen, and looks specifically for leaks of left-eye information in the right eye's frame. Any errors it detects can then be corrected or reduced at the so-called sub-field level. A plasma's sub-field drive, if you're not familiar with it, is the technology that pulses each cell repeatedly so that it remains bright throughout the full duration of a typical PAL or NTSC image frame.

Getting back to the key task (for energy consumption and improving 3D) of boosting the luminous efficiency, Panasonic has managed to reduce the rib structure used on its 2011 models to separate all the plasma chambers. So more of the available screen 'real estate' can be used for just producing light.

Greater contrast

Last, but certainly not least, Panasonic has improved the louvre shape and material of its screen filters. This results in panels which both absorb more ambient light (to reduce onscreen reflections) and help the light from the plasma cells emerge more directly. As you can probably guess, this results in a potentially greatly enhanced contrast performance.

As well as the redesigned filter described above, the flagship VT30 series even have an extra filter within their screen layers designed to further boost black level response for that 'nth degree' of picture quality demanded by the enthusiast's market.

So there you have it. Definitive proof that whatever you might think about 3D as a viewing experience, there's no doubt that it's leading to a flurry of innovation that's also benefitting your 2D viewing. And that, at the very least, can only be A Very Good Thing.

purchase site, and Skype (via an optional extra webcam) still make it a very worthwhile addition.

The P55VT30 enjoys the endorsement of both THX and the Imaging Science Foundation (ISF), giving it third-party kudos for both its performance standards and its set-up flexibility. The set-up tools extend to gamma presets and white balance fine tuning (once you've activated the Advanced ISFcc options via the Set up menu).

Panasonic's plasmas have traditionally impressed with 3D, so I couldn't resist starting beginning my audition with 3D Blu-rays of *Avatar* and *The Green Hornet*. And I'm glad I did.

Particularly striking is how bright and colour-rich 3D images look compared with those of last year's 3D plasmas. This pays particular dividends when it comes to reproducing more shadow detail during 3D viewing, avoiding the rather crushed, empty dark areas noted with 2010's models.

The P55VT30 also continues the Panasonic plasma theme of delivering full HD 3D while suffering practically no crosstalk noise at all. The nasty double ghosting issue (crosstalk) still found on some LCD 3D models this year is here just not an issue of any significance.

Not having any crosstalk to squint through also allowed me to appreciate how the 55in screen shows off the full HD splendour of the active 3D format to a degree you don't see with smaller models. Not for the first time, I was struck by how much size matters for 3D viewing.

My only gripe would be that there isn't a 3D picture preset, leaving me having to calibrate a good one myself (based on a toned down version of the Dynamic preset).

Filtered blacks

Turning to 2D, the picture advantage offered by the VT30 series' exclusive contrast filter becomes apparent. Black level response during dark sequences such as the main ballet sections of *Black Swan* is even more intense, deep and rich than it is on the GT30 models. The difference is subtle rather than earth-shattering, but for the P55VT30's target 'enthusiast' market, even a small advantage in black level response extremely desirable.

In most other ways, the P55VT30's pictures deliver similar strengths to the GT30 series. Colours are richer and more natural than those of any previous Panasonic plasma generation. They're subtle too, with little to no evidence of colour striping or blotching.

Plasma slice: The 55VT30 is slender, but heavy – get a pal to help you mount it on its stand

HD images look outstandingly crisp and detailed as well, reminding us strongly of how the HD advantage is directly proportionate to the size of screen you're watching.

The P55VT30 isn't a bad standard-def performer, either. This is especially true with DVDs, but the set's upscaling processing can add detail to Freeview SD broadcasts without adding noise. There's not as much sharpness to these pictures as there is with some rival TVs, but the Panasonic's more 'laid back' approach is not without its charms.

There are some problems with the P55VT30's pictures. The first finds 50Hz pictures suffering more judder than we'd like, leading to some double imaging at times. You can greatly improve this, though, by using the set's Intelligent Frame Creation processing on its Mid level – a setting which doesn't introduce many distracting processing side-effects.

GT versus VT

Another issue is the extra contrast filter in the P55VT30 slightly reducing the picture's brightness. This arguably makes the GT30 series a better choice for those with a bright room who don't mind the range's maximum 50in size.

For *Home Cinema Choice*, though, serious movie viewing is everything (the clue's in our name!) So, with this in mind and our blackout blinds down, **we have no hesitation in declaring the P55VT30 the best domestic plasma screen we've seen so far.**

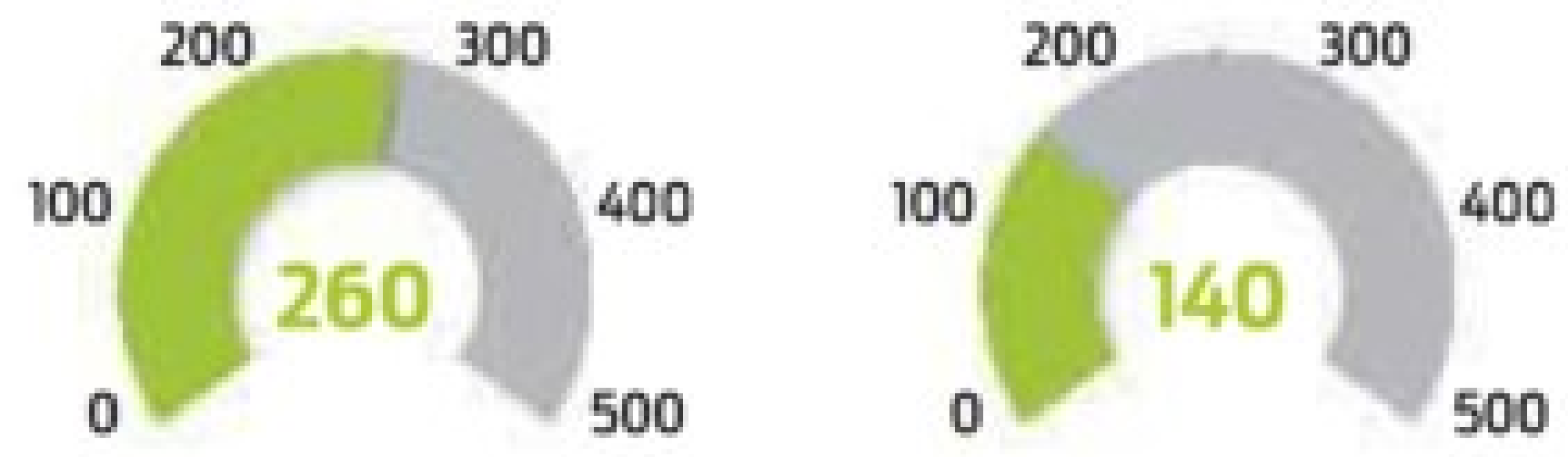
Better even than the much-missed Pioneer Kuros? Well, the last of the Kuros perhaps achieved a more dynamic picture, but the Panasonic has deeper black levels, and of course many more features.

The TV's built-in audio system is solid, but given it combines stereo speakers and a separate woofer, I'd hoped for more than that. There's more bass than usual, but the soundstage still lacks a little power and dynamic range. Still, most potential P55VT30 buyers will use a separate surround system.

Anyway, the P55VT30 is really all about its pictures, and they're so good, the only remaining question is whether we should be saving up for the 65in version... ●

Tech Labs

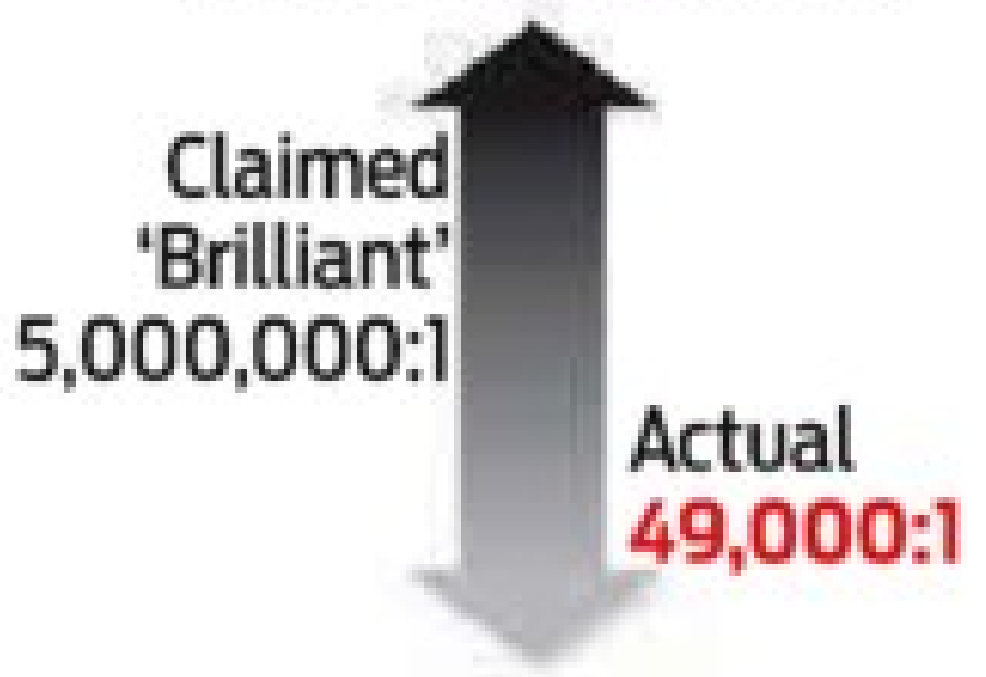
Power consumption: Watts



White screen: The P55VT30 draws a considerable amount of juice with our 100IRE test, even with the Content Auto Tracking System (CATS) engaged

Test footage: However, real world consumption is more eco-friendly – we measured an averaged 140W with movie footage

TV Contrast: Ratio



Picture: A healthy contrast ratio with the THX preset, and a luminance of 14.4fL

Colour temp: Kelvin

Presets: With the normal colour balance preset, the warm mode delivers a good colour temperature.
Cool (normal): 9,700K
Normal (normal): 6,900K
Warm (normal): 6,000K
THX (normal): 6,000K

HCC VERDICT

Panasonic P55VT30
£2,700 Approx

Highs: Incredible build; stunning cinematic picture quality
Lows: Picture lacks a little brightness; needs a 3D picture preset; judder with 50Hz

Performance: 1 2 3 4 **5**
Design: 1 2 3 **4** 5
Features: 1 2 3 4 **5**
Overall: 1 2 3 4 **5**

AV/CV

Product:
High-end speaker system

Positioning:
Two-channel range with new centre for multichannel setups

Peers:
M&K 950 Series;
Monitor Audio PL200 AV;
Dali Mentor 5.1

HOME CINEMA Choice ★★★★★ BEST BUY

Speech and sound that's fit for a king

Danny Phillips auditions a speaker system with a musical provenance

The previously two-channel-only Definition range is now joined by a dedicated centre speaker

Hi-fi buffs may already be familiar with Tannoy's Definition speakers, a two-channel range first introduced way back in the mid-'90s and brought back to life in 2009 with an elegant new design for the contemporary market. That's the very same system you're currently ogling on these pages, but before you start checking the cover date we should assure you that there's a good reason for turning back the clock.

Despite being conceived as a two-channel range with a choice of two floorstanders (DC10T/DC8T) and a standmount speaker (DC8), dealers were installing them as multichannel systems for punters who recognised the home cinema potential of these dynamic speakers.

Centre stage

But having a whacking great tower speaker on movie dialogue duties is far from ideal (unless you're Richard Stevenson – p15), so naturally, buyers started clamouring for a dedicated centre that they could tuck under their TV in a proper surround setup. Enter the DC6 LCR, a brand-new centre designed to add a bit of specialist speech-handling to the Definition lineup.

In the system here, this newcomer joins a pair of DC8Ts on front channel duties and a pair of DC8s for the rears, completing a formidable-looking, but mega-pricey 5.0 setup. 'But what of the subwoofer?' I hear you cry. Well, a 1,000W Definition subwoofer with twin opposing drivers is currently in the design stage.

Definition is certainly not a budget range, then, with a pair of DC8Ts costing £4,200, DC8s at £2,500 a pair and the DC6 LCR at £1,500, but the beautiful build quality is exactly what you'd expect for that price. The construction of the DC8Ts is rock-solid, but their clean, elegant lines and lustrous cherry finish (also available in walnut or black) is totally seductive.

Underneath the surface glamour, the cabinets are constructed from top-quality birch plywood, which improves the acoustic properties of the laminate. You also get magnetic grilles that attach without any fixings to compromise the look or acoustic integrity of the design. It's that sort of attention to detail that not only helps explain the bank-busting price, but also leaves me in a state of complete weak-kneed deference when in their presence. Much the same can be said for the DC8s and DC6 LCR, which share the flawless craftsmanship and classy styling.

And with this audio tech Tannoy is really spoiling us – each speaker features Dual Concentric drivers, which places a 1in Tulip WaveGuide tweeter within the 'throat' of the mid/bass driver, allowing sounds to emanate from a single point source and thereby improve the imaging sweet spot.

These DC drivers (8in for the DC8Ts, 10in for the DC10Ts) are made from a treated paper pulp cone with a rubber surround. The DC8 bookshelf speakers sport one of these drivers, but in the DC8T it's backed up by another 8in bass-only driver positioned below. Without the grilles, the large drivers dominate the front of each speaker, but the silver ring around each one is an alluring touch. Their Wideband technology not only delivers thumping low-end down to around 33Hz, but also enables them to resolve the finer details of movie soundtracks and music with an upper frequency response of 35kHz.

No screws: The Definition cabinets use magnetic mounts beneath the surface to keep their grilles in place

As for the DC6 LCR, it features a new 6in version of the Dual Concentric driver flanked by a similarly-sized bass driver and passive radiator to give speech the depth and authority it requires, as well as matching the drive of the other speakers. This sealed cabinet/passive radiator combo is used instead of the other speakers' rear-ported design because it's more practical when installing it close to a TV or against a wall.

I was worried that Definition's music-centric origins might result in a neutral sound that doesn't get the adrenalin pumping when presented with movie material. Not a chance – it's as well equipped for the rigours of a blockbuster movie as a pureblood home cinema system.

> **With *Avatar* and *Iron Man 2* up and running, I was hit by a sonic tsunami of considerable power, boundless energy and meticulous detail.**

As a whole, it's wildly entertaining yet goes about its business with all the refinement and maturity you'd expect from such pricey speakers. There's a remarkable scale and spine-tingling dynamism about *Avatar*'s action scenes, particularly the Battle For Pandora where the wide open soundstage is populated by thunderous explosions, scarily realistic gun shots and roaring engines that rattle right through you. While controlled, it doesn't compromise on excitement, and when pushed hard at loud volumes, it maintains composure and clarity no matter how frenetic the scene.

Remarkably, the system's bass performance is excellent even without the assistance of a subwoofer. Bottom-end effects are thick and punchy, lending just enough weight and depth to every scene. That said, it did definitely benefit from having a sub underpinning the action, and it will be fascinating to hear how the eventual Definition sub slots into this already impressive package.

Stellar detail

Detail reproduction meanwhile is out of this world. During the above scene, I was able to discern parts of the soundtrack that normally get buried on inferior systems, such as the flick of guitar strings being strummed in the movie's score. Even the faintest brush of jungle undergrowth or flap of wings is reproduced so realistically it feels as if it's happening right there.

This excellent detail handling comes into its own during *Avatar*'s more tender moments. The background for Jake and Neytiri's 'consummation' in the forest is an absorbing tapestry of fluttering insects, whispering voices and the faint sound of running water. The way these sounds are coaxed and caressed by the Definition speakers is mesmerising, stirring the emotions is a way that moving computer pixels have no right to.

The DC6 LCR proves itself to be an articulate performer, conveying dialogue with amazing clarity. Quaritch's voice came through loud and clear on board the helicopter as the blades noisily whirr above. And Jake's rallying cry to the Na'vi hordes, is suitably prominent, backed by licks of echo from the rear speakers.

Given its musical background, it comes as no surprise to learn that the Definition system works well with multichannel DVD-Audio and Blu-ray discs, too. The depth, sparkling detail and vocal purity is truly wondrous, making this a formidable proposition for music and movie lovers alike – a matching sub will be the icing on the cake ●

→ Specifications

DC8T fronts

Drive Units: Dual Concentric array featuring 8in mid/bass driver and 1in Titanium dome tweeter with Tulip WaveGuide; 8in bass driver
Enclosure: Rear ported
Frequency Response: 33Hz-35kHz
Sensitivity: 89dB
Power Handling (peak): 400W
Dimensions: 271(w) x 1025(h) x 260(d)mm
Weight: 21kg

DC8 rears

Drive Units: Dual Concentric array featuring 8in mid/bass driver and 1in Titanium dome tweeter with Tulip WaveGuide
Enclosure: Rear ported
Frequency Response: 42Hz-35kHz
Sensitivity: 88dB
Power Handling (peak): 350W
Dimensions: 271(w) x 470(h) x 260(d)mm
Weight: 10kg

DC6 LCR centre

Drive Units: Dual Concentric array featuring 6in mid/bass driver and 1in Titanium dome tweeter with Tulip WaveGuide; 6in bass driver; 6in passive radiator
Enclosure: Passive radiator ported
Frequency Response: 35Hz-35kHz
Sensitivity: 89dB
Power Handling (peak): 350W
Dimensions: 600(w) x 226(h) x 285(d)mm
Weight: 11.9kg

HCC VERDICT

Tannoy Definition
Approx £8,200

Highs: Exquisite detail; elegant, classy sound; excellent build quality
Lows: No matching subwoofer... yet, but we hope there'll be one along soon

Performance: 1 2 3 4 [✓ 5]
Design: 1 2 3 4 [✓ 5]
Features: 1 2 3 [✓ 4] 5

Overall: 1 2 3 4 [✓ 5]

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AV/CV

Product: Audiophile grade Universal 3D Blu-ray player

Positioning: Step-up model from the brand's BDP-93EU

Peers: Onkyo BD-SP808; Cambridge Audio Azur 751BD; Marantz UD7006

OPEN
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BLU-RAY DISC PLAYER BDP-95EU

While mass-market Blu-ray decks get thinner and thinner, OPPO's BDP-95EU features a sizeable build

OPPO is not a brand that immediately springs to mind when you think high-end AV. But over the years, this largely anonymous outfit has consistently produced disc players that quietly over-deliver. The BDP-95EU is its latest and most ambitious model.

Priced at £900 it may seem a tad expensive, but in reality this audiophile grade Blu-ray deck is actually a bit of a bargain. It may be a good deal more expensive than its BDP-93EU sibling, but it is a fundamentally different product.

More significantly, it's a massive £300 cheaper than the NuForce special edition BD83SE, which hit the UK at £1,300 late last year (and was lovingly reviewed in *HCC* #190). That unreservedly expensive Special Edition uses the same Sabre 32 DACs that are featured here. And, if anything, the BDP-95EU trounces it in every other respect.

➜ Specifications

3D: YES
Upscaling: YES to 1080p
Multiregion: yes Both Blu-ray and DVD
HDMI: YES two v1.4a
Component: YES one
Multichannel analogue: YES 7.1 phonos
Digital audio: YES optical and coaxial digital outputs
SACD/DVD-A: YES/YES
Dolby TrueHD/DTS HD decoding: YES/YES
Dolby TrueHD/DTS HD bitstream: YES/YES
Profile 2.0: YES
Dimensions: 430(w) x 98(h) x 311(d)mm
Weight: 7kg
Features: Ethernet; USB media playback; network media streaming; Sabre DACs; Pure Audio mode; backlit remote handset; balanced XLR outputs

HOME CINEMA Choice Reference Status

Prestigious build

The BDP-95EU is both handsome and sturdy. While mainstream Blu-ray brands are constrained by the gastric band of high-street competition, this model is engorged with high-fidelity largesse. Thanks to a heavy metal chassis and sculptured front fascia, it both looks and feels prestigious.

Generous back panel connectivity also sets it apart from the pack: there's a balanced stereo XLR analogue output for those with matching amplification, plus an e-Sata port should you wish to hook up an external media drive. You also get a 7.1 analogue phono output bank; RS232 port for custom installation integration; two HDMI outs; composite video and component; stereo phonos; Ethernet LAN; and a pair of digital audio outs (one coaxial, the other optical).

The twinned HDMIs have several uses. **Most importantly, they allow those with non-3D compatible legacy AV receivers to integrate this dimensional player into their systems**: the Primary HDMI output goes directly to a 3D display while the secondary output carries the lossless bitstream audio to the AV receiver.

The dual HDMIs can also be used to output the same video signal to different displays simultaneously – although be aware that only the primary output is supported by the unit's advanced video processor.

There are two USB ports, one on the rear and the other on the front fascia, hidden behind a rubber bung. The BDP-95EU does not have integrated wi-fi, but a USB dongle is provided in the box.

I was less impressed with the zapper. The remote handset is so large and heavy, it's like wielding Mjolnir. On the plus side it is backlit, so you'll be able to use it as a torch to find any escaped grains of popcorn.

Don't mention MP3s

As with previous OPPOs, this deck is compatible with both SACD and DVD-Audio discs, as well as the usual roster of BD, DVD and CD formats. ›

Indeed, within the setup menu there's an option to output DSD direct, in the event that you have an AVR capable of receiving the SACD bitstream.

While the BDP-95EU doesn't open the door to any VOD portals, it can stream media across your network and from USB.

File support in both cases is good – with one notable exception – the deck doesn't recognize MP3s. This is unfortunate, as its audio support otherwise extends from WAV and AAC to esoterica such as Ogg, Ape and FLAC. OPPO needs to resolve its issues with the MP3 licensing body as this omission could be a deal breaker for those with large collections of MP3s.

Video compatibility is more straightforward. The deck played out my entire collection of test files both from a local USB drive and AVI, MOV and MKV-wrapped unspooled content across a LAN from a NAS. However, SRT subtitle support is restricted to local media.

The OPPO does reach out online for extra functions, but finds only a Picasa photo-sharing application. Not something anyone is going to shout about.

Picture refinements

The player itself offers a variety of image manipulation adjustments, including Brightness, Contrast, Sharpness and Noise reduction. These should only be tweaked once your display has been correctly calibrated.

Take care also in the setup menu. Do not select PAL as your TV System in the Picture menu as this can cause some Blu-rays to stutter like King George VI. Select the Multi-System option instead.

Why go multizone?

Revealed: The Region A Blu-rays that we're missing out on

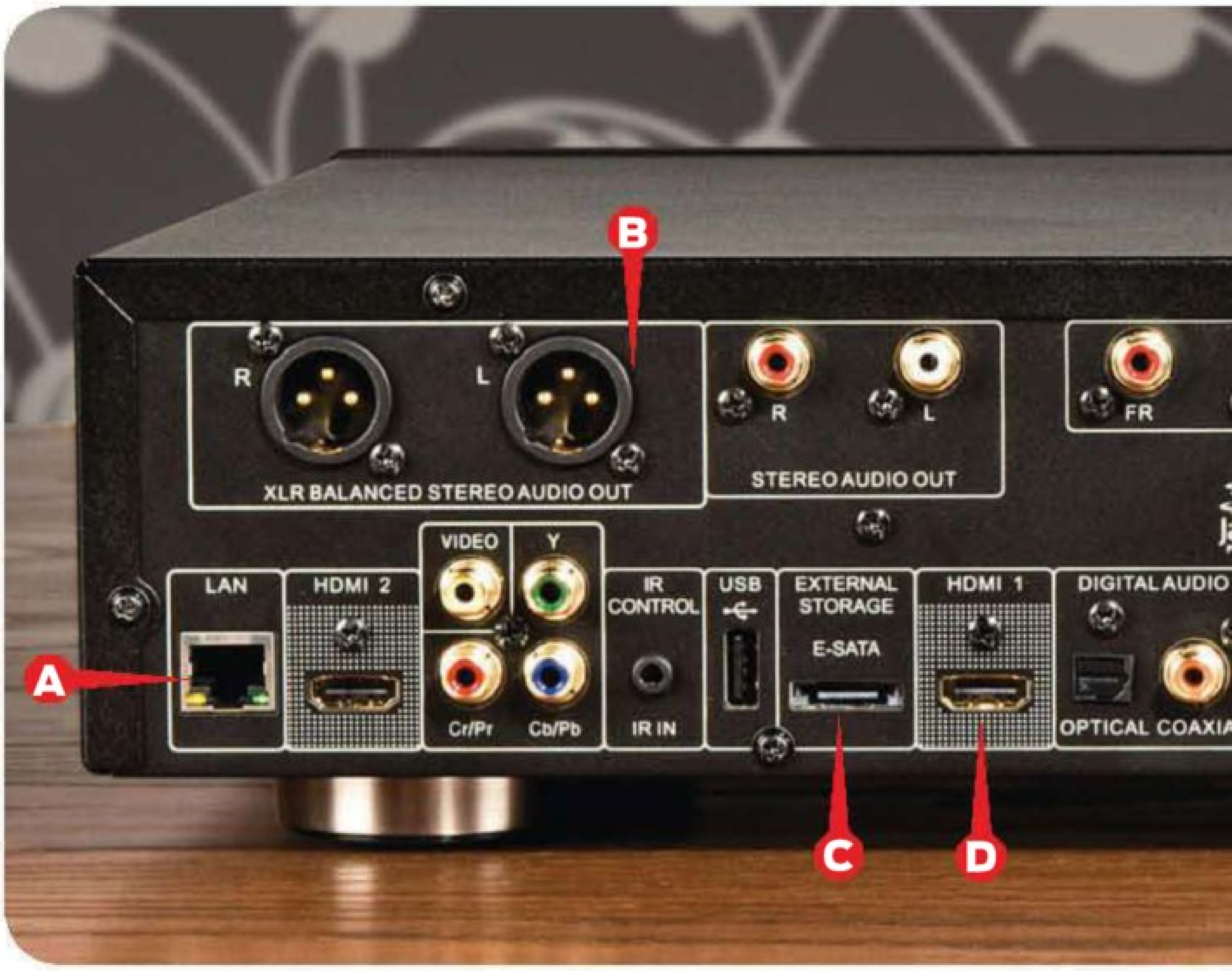
Assault on Precinct 13 → $20 approx
John Carpenter's trigger-happy 70s flick has been unleashed in hi-def in the US by Image Entertainment, but there's no sign of a Region B platter any time soon

Carrie → $20 approx
Good Stephen King movie adaptations are few and far between – so it's even more galling that one of the better ones is only out on an MGM Region A disc

Death Race 2000 → $27 approx
While UK fans of Roger Corman's cult carpocalypse still wait for a Region B release, Shout! Factory has issued the 1978 movie on US BD complete with a 12-page booklet and oodles of extras

Seven Samurai → $50 approx
Kurosawa's 1954 classic has been given typically lavish treatment by distributor Criterion, but you'll need a multizone BD deck to enjoy its corking transfer and bonus features

Sherlock Holmes: Complete Collection → $130 approx
No Holmes fan's collection is complete without MPI's five-disc Blu-ray boxset of all 14 Basil Rathbone/Nigel Bruce Sherlock movies



Other refinements buried in the rather bland setup menus include a Source Direct output mode, which is useful if you use an external video upscaler, and a Pure Audio mode, which triggers a flat, black video output from the HDMI, dims the power button and turns off the front panel display.

Disc loading speeds are on the right side of agile: our resident *Speed Kings* SE Blu-ray nipped from tray loading to onscreen menu in 38 seconds, while the remastered *Goldfinger* served up the 007 logo in 59 seconds.

Blazing performance

The BDP-95EU employs some very powerful audio visual silicon. Fuelling the primary HDMI output is Marvell's Kyoto-G2 video processor running the latest iteration of its Qdeo technology, while ESS SABRE32 Reference ES9018 DACs sit at the output stages of both the 7.1-channel analogue output and the analogue stereo output. All are put to good use.

Mozart's *Violin Concerto in D Major*, as found on 2L's delicious 2007 CD sampler, is delivered with effortless detail. It's immediately notable that the two-channel analogue soundstage of the OPPO BDP-95EU has more space and air than its HDMI presentation, which in itself isn't too shabby. For the record, I didn't use the XLR outputs, not having matched amplification.

Our Tech Labs measured the BDP-95EU's analogue audio jitter figure at 157 picoseconds - a

Connections

A Home networking
This LAN port allows you to connect the BDP-95EU to your home network, where it can pull down a wide range of content (not MP3s). A supplied wi-fi dongle can slot into one of the deck's USBs

B Audiophile connection
These XLR balanced stereo outputs make the BDP-95EU appealing to serious two-channel audio fans who have similarly equipped amplification, as they will reduce noise

C Thanks for the memory
As well as the twin USB inputs, OPPO's flagship deck offers an e-Sata port for hooking up external hard drives

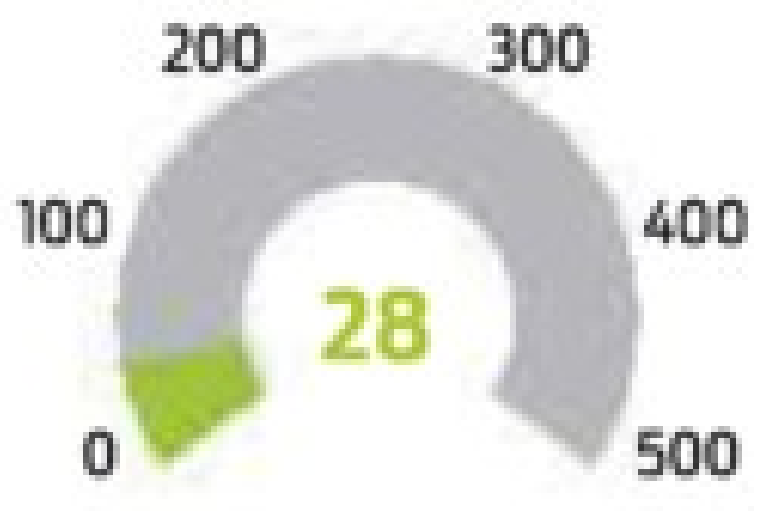
D Double display
There are two HDMI outputs on the BDP-95EU. This means you can send 3D video to a display via one output and send lossless audio to an HDMI v1.3 AVR via the other. Or you can feed two displays simultaneously

E Multichannel mayhem
If your AVR is so old it doesn't even have an HDMI input, then this bank of phono outputs are on hand to deliver decoded Blu-ray soundtracks

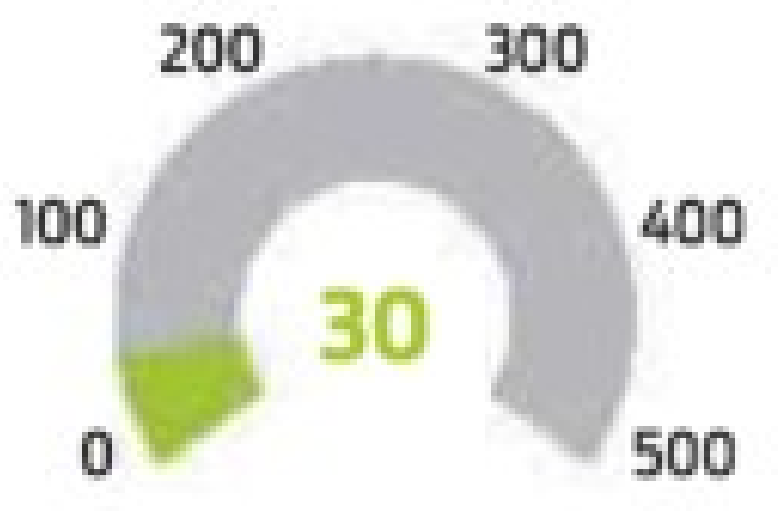
E
FL
SR
SL
SW
C
SBR
SBL
7.1CH
5.1CH
STEREO
AUDIO OUT
AC VOLTAGE SWITCH
CLASS 1 LASER PRODUCT
REMOTE CONTROL
RS-232C
CAUTION
VOLTAGE: ~115V / ~230V 50/60Hz
POWER CONSUMPTION: 45W, 0.5W(Standby)
ASSEMBLED IN CHINA
oppo BDP-95EU BLU-RAY DISC PLAYER
AC IN~

Tech Labs

Power consumption: Watts

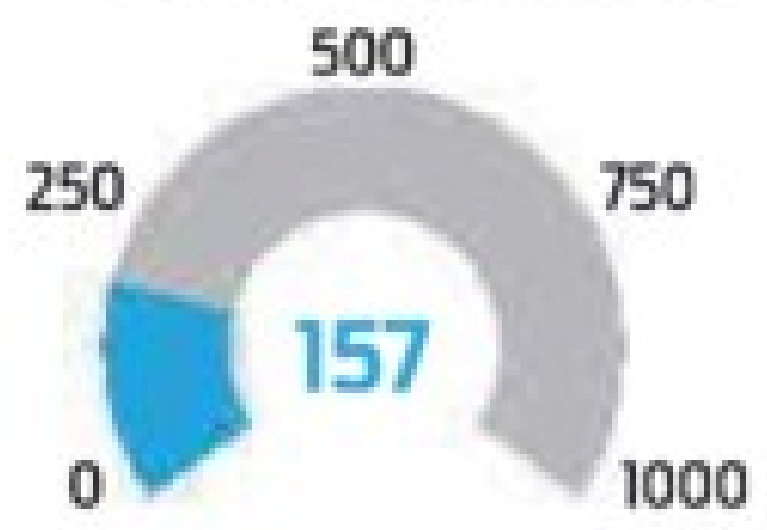


Idling: Power consumption is high (more than the BDP-93EU) thanks to the new power supply



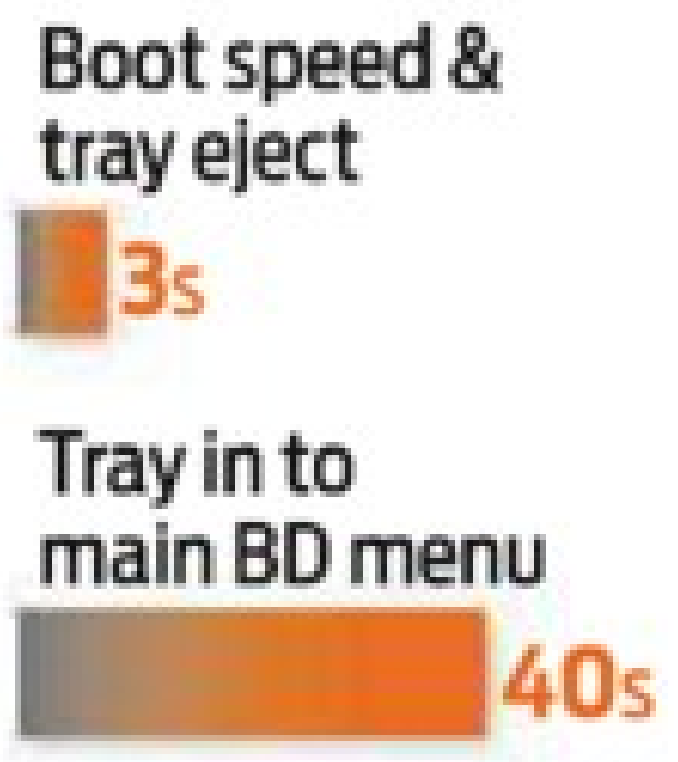
Powered: Spinning a disc doesn't raise consumption much above the idling figure.

Audio Jitter: ps



Sound: A marked jitter improvement over the BDP-93EU

Loading: Boot/Java



Disc loading & Java: Fast to boot and pretty quick to play

high-quality result and an improvement on the BDP-93EU.

Clarity jumps another notch with Super Audio CD playback. My new favourite SACD demo disc is *Chaotic Planet* by HYPS, a beautifully engineered 5.0 surround mix of modern jazz (Pony Canyon, Japanese import), and this OPPO lapped it up: imaging is fast, dynamic and musical.

The player's Pure mode is particularly welcome when listening to music. 2L's DTS HD 7.1 96/24 Blu-ray of *Ole Bull: Concerto Fantastico* is a captivating audio experience, to which the OPPO gives tangible depth and height, but its static images will do the average plasma display no favours at all. Flick on Pure and let yourself relax, as the black video feature instantly washes over, and protects your screen.

Video quality is downright gorgeous. HD images are effortlessly detailed and nuanced. The player works fine with 3D Blu-rays, delivering the frame sequential images without comment.

The BDP-95EU also offers superior DVD playback, with above average (pixel-based, motion-adaptive) deinterlacing and upscaling. The Qdeo D2750 video processor does a good (although not flawless) job with the Silicon Optics HQV test disc, adding silken edges to the classic fluttering flag challenge.

Qdeo works down the chain as well as up, reducing noise and smoothing edges of any compressed video files you might be streaming. It's a definite step up from the Anchor Bay VRS solution seen on the BDP-83.

Class leader

With its phenomenal build quality and audiophile performance, the BDP-95EU can be considered reference grade kit. The player shines with both two-channel and surround audio and is positively class-leading when it comes to video clarity. And with its 3D compatibility at least you know you're covered if the kids want to watch *Ice Age 3* in funny glasses. Chuck in the fact that for an extra £100 you can pick up a version that will spin Blu-ray and DVD platters from all corners of the globe (see box out, left) and it's hard to criticise – unless you're desperate to play MP3 files ●

3rd party upgrade

UK dealer AV Aficionado unlocks OPPO

OPPO's BDP-95EU is, naturally, locked to Region 2 DVD and Zone B BD, but the model reviewed here has been modified for multiregion playback by the specialists at AV Aficionado.

AV Aficionado supplies the BDP-95EU (and its step-down BDP-93EU model) in two versions: a standard edition which is automatically multiregion for DVD but Region B locked for Blu-ray (via a software modification which is firmware upgrade resistant), or the version reviewed here which is automatically multiregion for DVD and Blu-ray region selectable for zones A, B or C at will via the remote. This multi-zoning trick is achieved via a dedicated circuit board installed within the OPPO chassis.

So, if you are interested in a version of the player that can play Blu-rays from any zone, get in touch with them.

HCC VERDICT

OPPO BDP-95EU
£900 Approx

Highs: Pristine video quality and music performance; impressive build; twin HDMI outputs

Lows: No MP3 file support; woeful internet content portal; big remote

Performance: 1 2 3 4 **5**
Design: 1 2 3 4 **5**
Features: 1 2 3 **4** 5
Overall: 1 2 3 4 **5**

→ Specifications

Full HD: YES 1080p/24 3D: NO Tuner: YES, Freeview HD
Component: YES HDMI: YES four (one side connection)
Resolution: 1,920 x 1,080 Sound: 2 x 10W
Brightness (claimed): N/A Contrast ratio (claimed): 'High'
Dimensions: 943(w) x 586(h) x 42(d)mm Weight: 11.2kg
Features: Edge LED backlight; Bravia X-Reality picture engine; USB for media playback; optional wi-fi via a dongle; BRAVIA Internet Video Portal; Qriocity music and video streaming services; Viewer recommendations; Track ID, Music & Video info search; Ethernet connection; Bravia-link CEC

BRAVIA
SAVAGE TALES
SONY

The KDL-EX40524 sits at the affordable end of Sony's 2011 Bravia range but offers good VOD features

Sony's revamp is truly IPTV-tastic

If net connectivity is this year's hot TV ticket, Sony's affordable EX-range is smokin', says **Steve May**

AV/CV

Product: Mainstream 'net connected flatscreen, in Sony's populist EX range

Positioning: Sits below the Motionflow-enabled EX72x models but above Sony's cheapest screens

Peers: Samsung UE40C6540 Panasonic TX-L37E30

Sony was an early exponent of net-connected TV. While its rivals were fumbling through the adolescent stages of internet connectivity, the Japanese major already had a mature IPTV portal on the go in the shape of its BRAVIA Internet Video (BIV) service.

So it's no surprise that its online service has evolved into an altogether different animal versus offerings from Samsung or LG.

Sony's BIV proposition remains all about streaming video and audio services. Indeed that philosophy lies at the heart of its fresh-faced subscription music and VOD super service, Qriocity, which is now part of the BIV package.

And this year we are seeing a big refresh in the way the brand presents its net-ertainment.

The 40EX524 is the first of the brand's new season screens to find its way onto the *HCC* test bench, and it reveals some big changes to the user interface. The long-standing XrossMediaBar has been retired. Pressing the Home button on the remote now minimises the TV window allowing a new-look navigation bar to run along the bottom of the screen. It looks kinda funky and is just as intuitive to use.

The TV itself is presentable without being tarty. While the bezel's a little too thick to be truly fashionable, the two-tone gloss black/titanium finish is splendid. The screen feels well built for the price.

The connections are standard. You get three rear-placed HDMI inputs, plus a legacy Scart, component, stereo audio phonos and digital optical out. The thinness of the panel precludes side-mounted inputs, but side facing on the rear is an additional HDMI, two USBs, a PC mini D-Sub and a CI slot. If you plan on wall-mounting this TV, these will all be unreachable. Wi-fi is not integrated, but you can use Sony's dedicated UWA-BR100 dongle. There's also an Ethernet LAN port, which we prefer every time.

Interestingly, the set shipped with the new CE industry Power Consumption ratings sticker attached. These look the same as those you'd find on white kitchen goods. This set is A-rated, with an average power consumption of just 65W, although this effectively doubles if you're mad enough to use the Vivid picture preset.

In the menus are a variety of Eco features, including an intelligent Presence Sensor, which shuts the screen down if there's no one watching, then 30 minutes later kills the audio and goes into Standby.

There may only be three picture presets (Standard, Vivid and Custom), but Sony does offer a wide number of parameters both in the main Picture menu and hidden within the Advanced tab. Not that you really need to spend that much time tweaking, as the general options are well judged. Slap brightness at around 45 and take the sharpness slider to 39 and you're most of the way home.

The screen uses Edge LED backlighting, but Sony has made big strides in improving the uniformity of this illumination. There may still be hotspots, but they're not distracting.

Image quality can be considered generally good, although there are caveats. As this screen sits at the affordable end of Sony's 2011 range,

BRAVIA
SONY

Intelligent life: A Presence Sensor detects if anyone is watching and shuts down the picture when no viewers are around

it lacks the brand's Motionflow frame-rate interpolation technology. Consequently, we were stuck with the native motion resolution of this panel, which is low – just 650 lines.

There's also a low level of motion judder evident on horizontal pans. On the plus side, without any fast frame-rate picture processing at work, movies still look cinema-like and there are no motion artefacts. If you want improved motion resolution, look to the brand's more expensive EX723 and EX724 models, with Motionflow XR200 processing.

Colour reproduction is vibrant and black levels are deep. *TRON: Legacy* is a challenging Blu-ray for any LED screen, because it features a preponderance of low light action. However, the 40EX524 did a fine job of retaining depth and shadow detail on The Grid.

The screen has an integrated Freeview HD tuner and image quality from the two BBC HD channels, ITV1 HD and E4HD is a significant step above the standard Freeview fare.

You can timeshift any channels (both SD or HD) to an external USB HDD. As there's only one tuner available, you're faced with obvious limitations, but as a back-up this PVR-lite function is worth having. After being formatted by the TV, you cannot view recordings from this HDD on other devices. For the audition, I used a Freeagent Go 250GB external drive, which worked well. You can plan recordings from the main TV guide or manually enter recording details.

Wot no MKV?

Despite the excellence of the set's BRAVIA Internet Video portal, the EX524's media streaming abilities are average. For some reason Sony still doesn't acknowledge MKVs on its TVs, so there's no playback of these files either across a network or from USB.

You will be able to unspool AVIs, AVCHD and MPEG4 video, though, while music support covers MP3, WAV and WMA.

The Track ID feature automatically looks up info on the Gracenote database for any songs that happen to be playing, or the soundtrack of a TV show or movie you're watching. There's also a Music and Video search app if you want to go online for a quick info fix.

Cereal killer

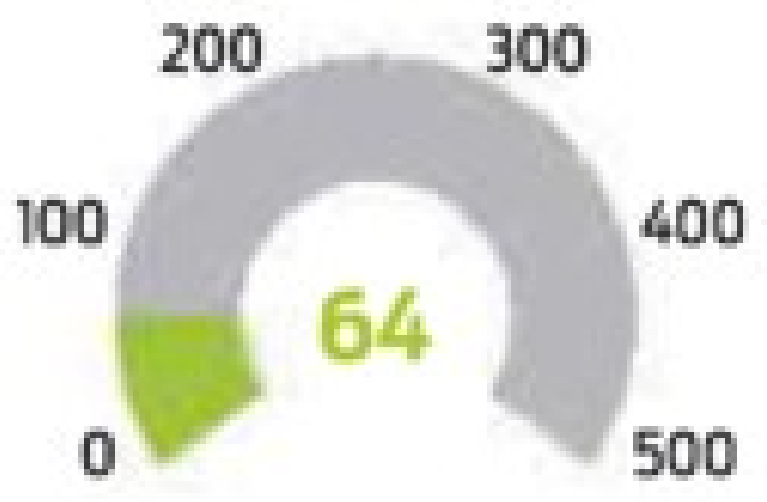
Another new UI wrinkle is a Recommendation Engine, which appears to randomly 'recommend' upcoming TV shows to watch. I didn't pay much heed to this until one morning, while browsing over Sugar Puffs (not a euphemism), I was recommended something on the Adult Filth channel. Apparently this is on Freeview channel 192. Sony's engineers tell me the TV uses an algorithm to find recommendations based on what you've watched from the EPG. Clearly, straight from the box it's prepared to make some wild (and unwarranted) assumptions.

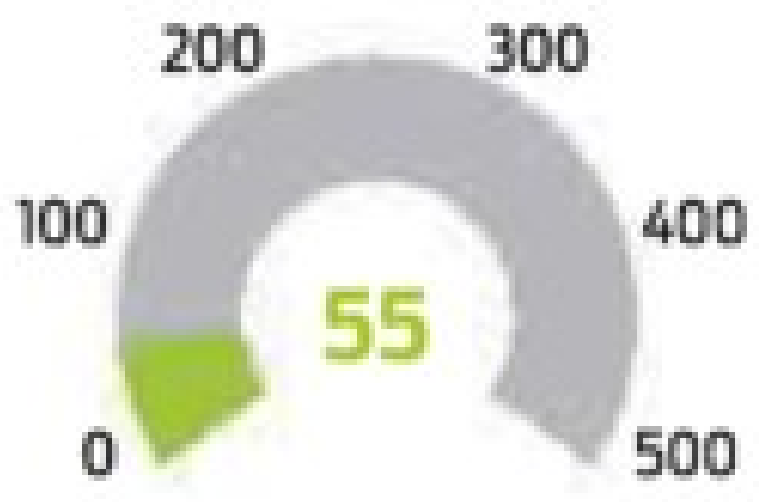
Audio performance is more functional than fancy. The set has a decent enough 10W stereo digital amplifier, but it lacks any mid bass. There's also no subwoofer, so a dedicated sound system is a must for serious movie and TV watching.

Overall, I rate the EX524 as a solid mainstream TV. While it may lack the visual finesse of models further up the Sony range, it does offer a great feature spread, with welcome eco credentials and excellent net connectivity ●

→ Tech Labs

Power consumption: Watts

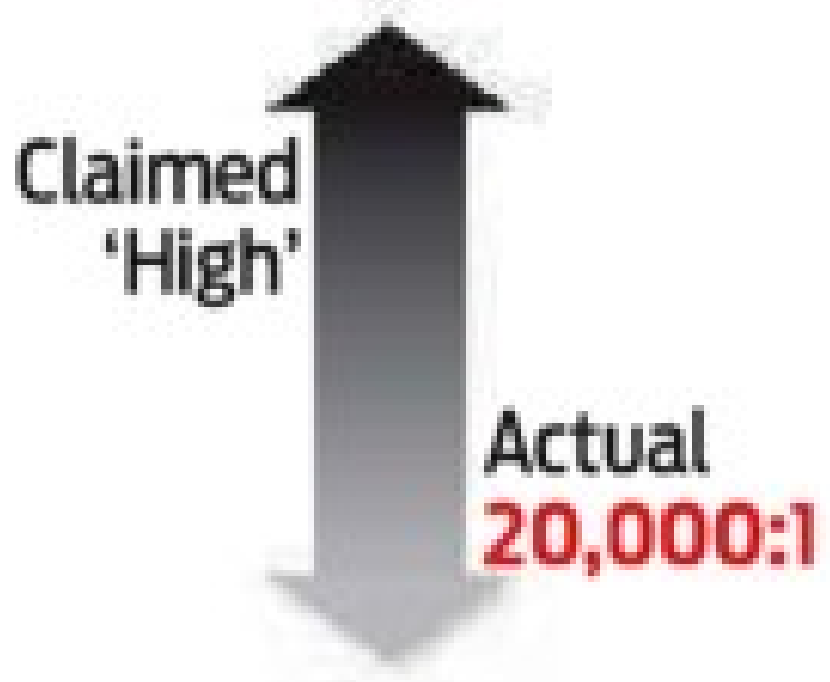




White screen: Consumption is 64W with our 100IRE test screen

Test footage: A very efficient average power consumption with real-world footage

TV Contrast: Ratio



Colour temp: Kelvin

Picture: We measured the Sony's contrast ratio at approximately 20,000:1, with a luminance of 41.5fL

Presets: Calibration to 6,500K is available, but the Cinema 2/Warm 2 preset is very close
Cinema 1 (Warm 2): 6,640K
Cinema 1 (Neutral): 9,100K
Cinema 2 (Warm 2): 6,570K
Cinema 2 (Neutral): 9,000K

HCC VERDICT

Sony KDL-40EX524
£799 Approx

Highs: Feature-rich BRAVIA Internet Video portal; design; USB recording; new user interface

Lows: Poor motion picture resolution; no support for MKV files

Performance: 1 2 **3** 4 5
Design: 1 2 **3** 4 5
Features: 1 2 3 4 **5**
Overall: 1 2 3 **4** 5

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Sweet tweet treat

This 3D Blu-ray all-in-one system from Samsung works wonders with high frequencies, says **Steve May** – but it should drop the '7.1' tag

Samsung's top-of-the-line home cinema system is frothy, feature-rich and just a bit mad.

Opening the box reveals a veritable forest of shiny black plastic. The HT-D6750W package comprises two slim tallboy (1.3m) stereo front speakers which bolt together in the middle, and a pair of similar tallboy rears. They're joined by a small horizontal centre and a large (but light) subwoofer, which uses a 6.5in woofer and 10in passive radiator.

Samsung bills this as a 7.1 channel system, but there are no extra enclosures. Instead the main stereo loudspeakers each sport a separately driven, swivelling frog eye, which aims at the ceiling (or thereabouts). That counts, apparently.

Core components

At the heart of the shebang is a digital amp with integrated 3D Blu-ray player, two-in, one-out HDMI functionality and Smart Hub connectivity. For those who don't have a wired network connection handy, wi-fi is built-in.

One extra nicety is that the rears are wireless. That's to say you don't need to run speaker cable from the main amp. Instead there's a module, the SWA-5000, which receives a wireless feed (dual band 2.4/5.8GHz) from a transmitter plugged into the back of the main unit.

The 3D Blu-ray component of this system is clearly a derivation of the brand's standalone models. Video quality is high and functions broad. Samsung proudly declares the power output of its digital amplifier to be 1300W. Given that it only draws 70W at the mains, this is obvious bunkum. I suspect it's more likely to be around 25-30W per channel. This is plenty for a smaller room; during my audition I never felt the system lacked volume, only dynamics.

So what of the HT670's 7.1 billing? Well, this is not a 7.1 system in the traditional AV sense, but Samsung's engineers maintain the HT-DW6750W takes advantage of DTS' speaker remapping function, which uses 'sophisticated algorithms to electronically reposition speakers in the living room' if they don't match the placement used during recording.

But, if you think you can take a panned rear sound effect, throw it from a front height driver and get the same listening experience, you're simply delusional.

Playing *Rush Hour 3*, a DTS-HD Master Audio 7.1 mix, there was simply no correlation between what came out of the back of a conventional 7.1 system and this front-weighted simulacrum.

However, rear back/front height speakers aside, the system does a spirited job panning 5.1 multichannel audio to and fro. The audiovisual excitement of *TRON: Legacy* (3D Blu-ray) is not lost here.

Without a doubt, the star of this particular show is the 50Hz Super Tweeter, which delivers a crispness and clarity that lifts this entire system above the purely mundane.

There are caveats of course. Voice matching is a little rough, while timbre across the L/C/R is compromised because the centre speaker doesn't sound the same as the tallboys. It lacks that splendid tweeter, and consequently sounds comparatively dull.

Good value

While I contest the value of this system's bonus height drivers, I do think that overall Samsung's HT-D6750W is rather good fun. The functionality it offers is exceptional, ticking every must-have feature box, and overall can be considered a good value option if you're not interested in a larger separates-based home cinema system. Just don't tell me it's 7.1 ●

AV/CV

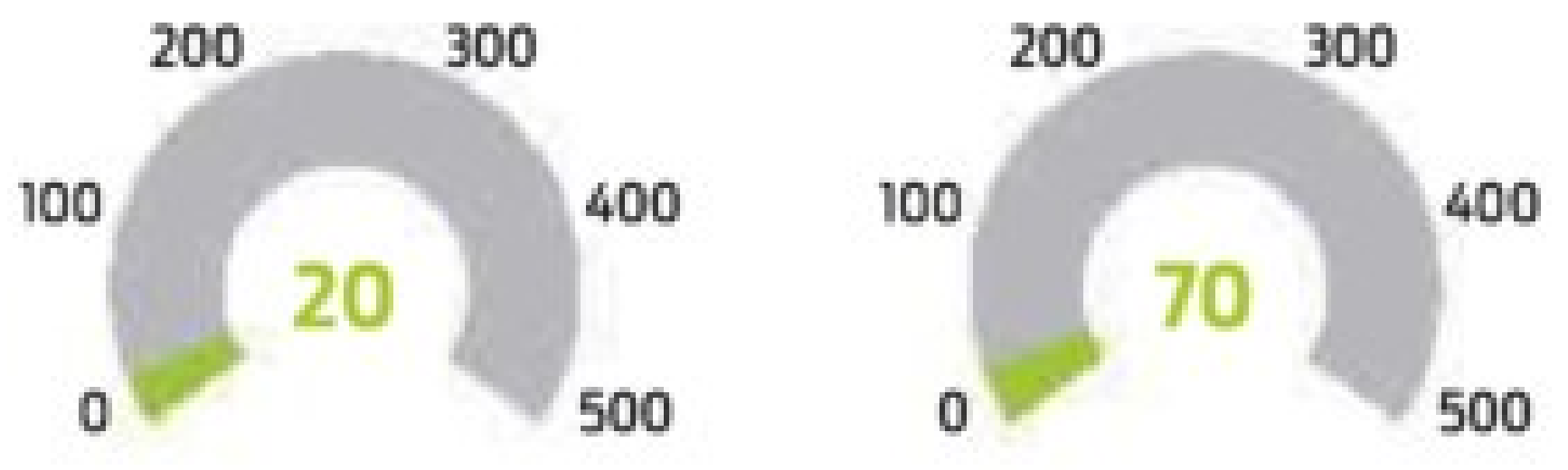
Product: 3D Blu-ray home cinema system

Position: Flagship of Samsung's 3D Blu-ray all-in-one entertainment packages

Peers: LG HX995TZ; Harman Kardon BDS800

→ Tech Labs

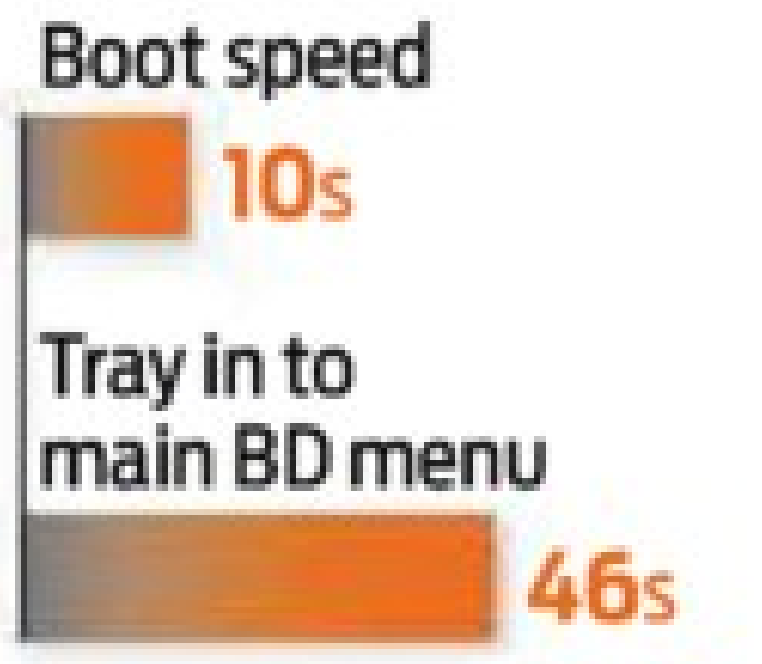
Power consumption: Watts



Idling: A typical idling figure for an all-in-one system

Playing: With movies, the Samsung draws an average of 70W

Loading: Boot/Java



Disc loading & Java: Quick to load our test disc into its slot drive

HCC VERDICT

Samsung HT-D6750W
£800 Approx

Highs: Fabulous tweeters on the main stereo pair; good Blu-ray performance with Smart Hub net connection

Lows: Not a 7.1 system in the recognised sense; unrefined sub

Performance: 1 2 **3** 4 5

Design: 1 2 3 **4** 5

Features: 1 2 3 **4** 5

Overall: 1 2 **3** 4 5

The skyscraping speakers look the business, but don't offer real 7.1

→ Specifications

3D playback: YES
Video upscaling: YES 1080p
Multiregion: NO RB BD, DVD R2
HDMI out: 1 x HDMI v1.4a
HDMI input: 2 x HDMI
Component video out: YES
Multichannel phono audio: NO
Digital audio input: YES 1 x optical digital audio
Dolby TrueHD/DTS-HD support: YES
Profile 2.0: YES
Total Amplification (Claimed): 1,300W
Dimensions (main unit): 429(w) x 58(h) x 325(d)mm
Weight (main unit): 3.5kg
Features: FM/AM radio; Ethernet; iPod dock; Blu-ray, DVD, CD, DVD+R/+RW, DVD-R/-RW, CD-R/RW, AVCHD disc support; Smart Hub net connected portal; powered subwoofer with 6.5in driver

Panasonic is still using the DIGA brand name on its recorders – we're not sure why

Blu-ray Disc
DIGA
Panasonic

HD archives go 3D

The UK's first 3D Blu-ray/HDD PVR has arrived. **Adrian Justins** tries to remember what it's like to record programmes and actually keep them

Panasonic's hard disk/Blu-ray recorders hark back to the day when video recording meant people could lend VHS tapes to friends and family, who'd missed an episode of *Twin Peaks* or the Christmas day broadcast of *Back To The Future* on BBC1.

Now in the age of Sky, online movie downloads and affordable disc rentals and retail, a Blu-ray recorder seems as good an idea as a red wine spritzer. The PVR and likes of the iPlayer mean you need never miss a show, and if you really want something for your collection you can simply buy it on optical disc.

On the other hand, the ability to shoehorn in anything between 13 and 84 hours on to a dual-layer Blu-ray, plus a hard disk capable of storing between 79 and 538 hours of footage (depending on quality levels) makes the DMR-BWT700 almost the ultimate archiving machine. It even has 11 recording modes that let you squeeze every last drop out of your recording media and it remains the only (bar its DMR-BWT800 sibling) way of making your own Blu-ray discs of broadcast HD shows.

Multiple choice: The BTW700 offers 11 different recording modes to help archivists fill up their blank discs

There are limits to this, however. Freeview BBC HD shows can be copied on to Blu-ray multiple times, while those from ITV and C4 may only be copied once (although you can make limitless standard-definition copies). All TV shows are recorded in DR (direct record) mode using the same bitrate (approx 8Mbps for HD, 4Mbps for SD) as the original, to the hard disk. You can boost your storage capacity by converting each recording to a

1:05
REC2
Freeview
+HD
DVB
3D
FULL HD

AV/CV

Product: Freeview HD PVR with Blu-ray recording and 3D playback

Positioning: More affordable than its DMR-BWT800 sibling

Peers: Samsung BD-D8500M

different mode prior to copying on to Blu-ray (or DVD if you're making standard-definition copies). This is a process that is done in real time and is best performed when the box is in standby.

New and different

The DMR-BWT700 replaces last year's DMT-BW780 and, while it loses a Firewire input, it gains in a number of ways, including the ability to rewind live TV rather than just pause it. Other upgrades include the revamped Viera Connect service, built-in Skype (bring your own camera), plus a new HM recording mode that lets you cram 35 one-hour episodes of *Casualty* in HD on to a 50GB Blu-ray disc. Should you want to.

There's also 3D compatibility, which doesn't just mean 3D Blu-ray playback, it also means 2D-to-3D conversion of discs (ie. not broadcasts, which is annoying) and playback and archiving of 3D footage. So you can actually make your own 3D Blu-ray movies, assuming you already have a compatible digital camera or camcorder.

Design-wise, the DMR-BWT700 is no great departure from last year's model, which is to say, aside from being festooned with just about every home cinema logo going, there's little to suggest just how serious a piece of AV kit it really is.

The fascia pulls down to reveal the disc tray, a USB port, SD card slot and just two playback buttons (for stopping and starting) that look like a design afterthought. The front is also home to the six-digit LED display plus a small selection of indicator lights for the current source and recording timer. The brightness of the display can be altered, as can the presence and/or intensity of a bright blue glowing LED that comes on when the machine is in operation.

There's no CI slot nor component video, but you'll find dual Scarts around the back, which keep the analogue fires burning along with composite video and stereo phono inputs. Although it can digitally output hi-res audio formats there is no provision for analogue multichannel. Digital duties are handled by a solitary HDMI (the flagship DMR-BWT800 ups the HDMI count to two), plus there are optical and coaxial options.

Networking is taken care of by using the Ethernet socket or an optional Panasonic wi-fi adapter (or, again, get the BWT800).

Installation is a straightforward process and provided you keep track of which drive you're using (BD, HDD, SD or USB) the recorder doesn't take too long to get to grips with. But the rather jaded-looking menu system and poster adverts in the EPG are

>

→ Specifications

HDD: YES 320GB
Tuners: YES twin DVB-T/T2 (Freeview HD)
3D: YES
Upscaling: YES to 1080p
Multiregion: NO Region B BD/R2 DVD
HDMI: YES 1 x v1.4
Component: NO
Multichannel analogue: NO
Digital audio: YES via HDMI, coaxial and optical
SACD/DVD-A: NO
Dolby True HD/DTS HD decoding: NO
Dolby True HD/DTS HD bitstream: YES
Profile 2.0: YES
Dimensions: 430(w) x 59(h) x 249(d)mm
Weight: 3.1kg
Features: 2 x Scart (inc RGB); Dolby Digital/HE-AAC 5.1 recording; PCM, DD, DTS, MPEG audio output (optical and coaxial); 2 x USB; SD card slot; Ethernet; RF loopthrough; optional wi-fi adapter; 2D-3D conversion

Panasonic
Freeview +HD DVB
3D FULL HD

3D supremo: The BWT700 lets camcorder owners burn their own stereoscopic movies to Blu-ray discs

hardly a match for the cutting-edge technology under the hood.

Testing the DMR-BWT700's networking mettle is as untaxing as you could hope for provided you choose the 'easy' setting. Acetrax aside, there's not much for the home cinema enthusiast and the absence of iPlayer is a notable omission. Any DLNA computer can be rigged up, and the PVR's library of recordings can be accessed and viewed in Windows Media Player. However, I gave up waiting for a six-minute recording of BBC News to playback after 10 minutes.

As a PVR the BWT700 is versatile yet simple to use, for the most part. Recordings are stored in the Direct Navigator where unviewed shows are flagged up and icons tell you how many Blu-ray copies can be made. Pressing 'option' on the remote control accesses the editing menu where you can rename, lock, divide, partially delete, change the thumbnail trailer and perform a file conversion. Image quality of recordings is nothing short of excellent, creating flawless facsimiles of the original broadcasts.

Files in the ointment

There are some flaws in the operating system, though. For example, if you try to copy an HD show to a BD-RE disc, the machine asks you which recording mode to use. Select anything other than the DR original, for example HL or HM and the recorder attempts to make a copy, but fails and tells you the disc is probably scratched or dirty. You must convert the file before the copying stage, but the recorder doesn't make this clear.

File conversion is also *de rigeur,* if you're making a finalised BD-R that will be viewed on any other decks. Despite the drop in bitrate, it's practically impossible to notice any quality drop-off between DR and HG (the next-best mode) files. Even in HL, the most compressed of the five high-definition modes, the quality remains very high, with just some softening and loss of clarity.

The hard disk can be used to store multiple types of media and you can rip CDs, accessing the Gracenote database for full track listings. A pity it doesn't show album artwork.

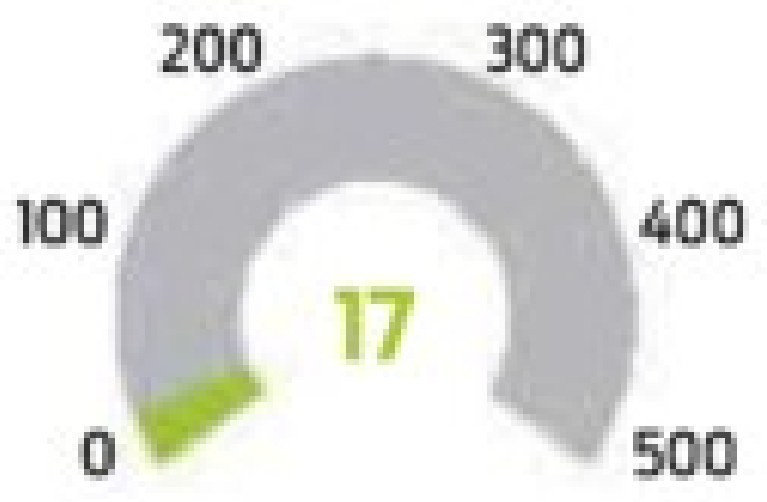
Reassuringly, the DMR-BWT700 is no slouch as a Blu-ray deck. The early desert scenes in *No Country For Old Men* have excellent clarity and detail, while the MPEG noise levels of the sky vistas are kept in check. Stereoscopic material such as *Monsters Vs Aliens* is equally impressive, but 2D-to-3D conversion of *Avatar* is no match for the real 3D deal, lacking both punch and depth.

Audio clarity is excellent, and the BWT7000 can transcode from AAC, which is used with many HD broadcasts, to Dolby Digital. When playing Blu-rays, Dolby Digital TrueHD, and DTS-HD Master Audio can be bitstreamed to your amp using the HDMI output.

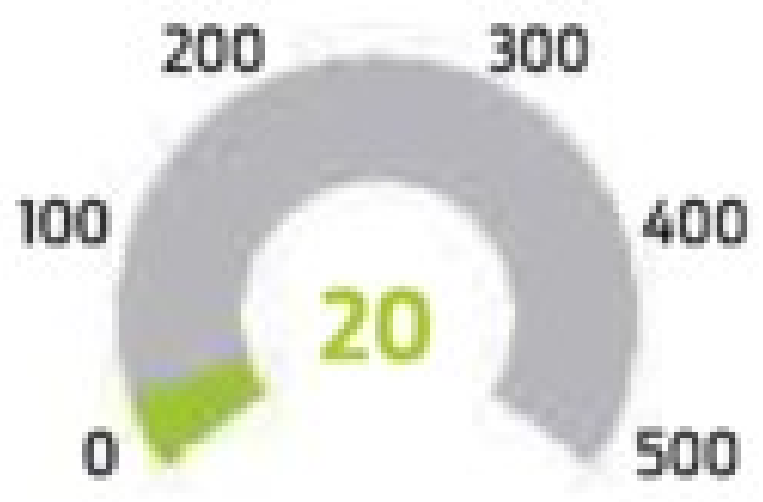
AV is a niche market, and this machine is very niche indeed. I suspect camcorder enthusiasts, who want one box that can perform every home entertainment trick in the book (popcorn making aside) will find the BWT700 suits their needs. But as we move further away from the VHS era and the home archiving craze, I wonder whether most tech-hedz will muster any excitement for it, particularly given the £500 tag ●

→ Tech Labs

Power consumption: Watts

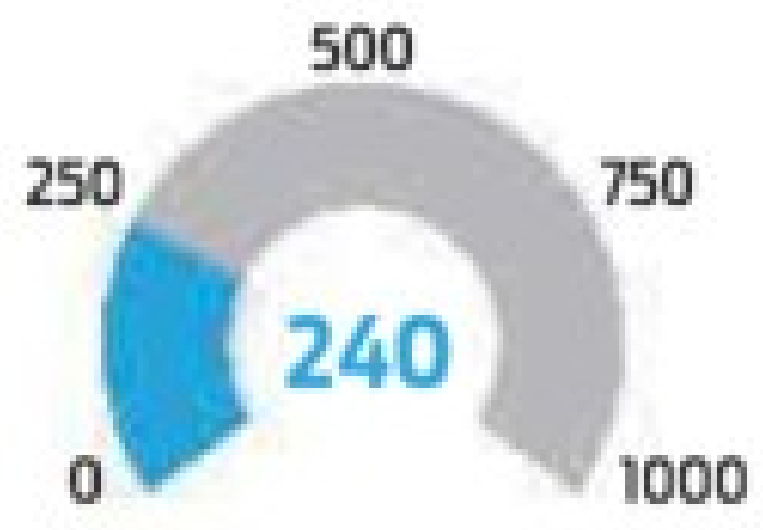


Idling: Relatively high consumption, but it does have an integrated tuner



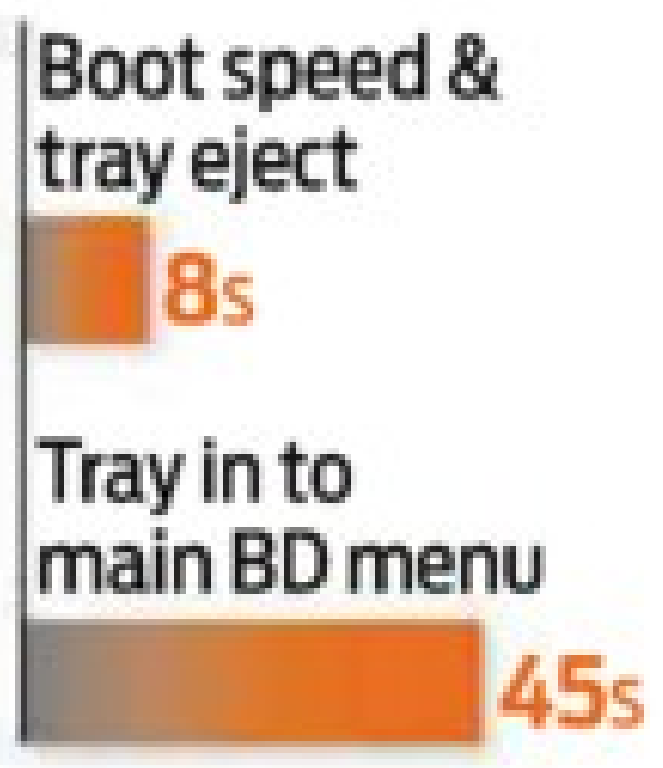
Playing: Spin a disc and the Panasonic will suck 20W of your 'leccy

Audio Jitter: ps



Sound: At 240 picoseconds, this player can be considered a well-built disc spinner. – but components aren't audiophile grade,

Loading: Boot/Java



Disc loading & Java: A pretty quick booter and loader

HCC VERDICT

Panasonic DMR-BWT700
£500 Approx

Highs: Versatile Freeview PVR; 3D BD playback

Lows: Unimpressive with multimedia; dated-looking menus; complex operating system

Performance: 1 2 3 **4** 5
Design: 1 2 3 **4** 5
Features: 1 2 3 **4** 5

Overall: 1 2 3 4 5

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Austerity cinema

How low can you go and still get a great cinematic experience? **Steve May** finds out, as he counts his change from a grand...

→ Specifications

3D ready: NO Full HD: YES 1080p24
Component video: YES 1 set of inputs
HDMI: YES 1 v1.3 PC input: YES D-Sub 15 Pin
12V trigger: YES 1 output
Resolution: 1920 x 1080
Brightness (claimed): 2,000 ANSI Lumens
Contrast ratio (claimed): 4,500:1
Dimensions: 339(w) x 139(h) x 267(d)mm
Weight: 3.6kg
Features: One-chip DLP imaging system; 230W lamp; backlit remote control; Auto keystone correction; *f*=20.72 to 31mm lens; manual zoom and focus; manual keystone control; projection picture size up to 200in from a distance of 3.01m; 2 x 10W sound system; video formats supported – 480/60i, 576/50i, 480/60p, 576/50p, 720/60p, 720/50p, 1080/60i, 1080/50i, 1080/24p (HDMI input only); 22dB fan noise quoted in Eco mode; 2,500 hours lamp life

The BenQ W1100 delivers a performance that belies its small footprint... and price

HOME CINEMA Choice ★★★★ BEST BUY

BenQ's W1100 projector delivers large scale, vibrant images without obvious compromise, and its a full HD flag-waver for AV in our straitened times.

Despite the budget price tag, this model is undeniably cute. Should you be a fair-weather projectionist, it is small enough to store in a draw, but it's also smart enough, with its contemporary white finish, to leave out when guests drop by.

Its distinctly upmarket remote also helps. Backlit and comfortably moulded, it feels good in the hand.

There are generous connections on the back, comprising two HDMIs, component and S-Video inputs, phono AV and a 12V trigger. The latter allows the projector to automatically sync with an electric screen or lighting system – a pleasingly professional AV embellishment for such an affordable model.

Other connection options include a PC D-Sub input, Type B USB 'upscreen' connector, RS232 port and PC monitor output.

It doesn't take long to have the W1100 up and running. While there is no vertical lens shift, the projector sports auto keystone correction which works surprisingly well. There's also a manual option, should you need to fiddle further.

BenQ is rightly proud of the 12-element optical system used on this model. Straight out of the box, the W1100's image is preternaturally sharp and bright. The picture pings like buttons off a fat man's waistcoat and I soon had this PJ a-popping.

Image controls are extensive. There are three user-definable presets allied to a trio of picture settings (Standard, Cinema, Dynamic). All the expected picture parameter controls are here and can be saved to the individual user preset.

As with all small projectors, fan noise is an issue. Large vents pull air in on one side and expel it on the other, cooling the DLP chipset in the process. There is none of the sophisticated noise management seen on more costly models. You are given a modicum of control, though. You can dive into the lamp menu and adjust the lamp setting from Normal to Economic. This reduces power consumption by 20 per cent, but more importantly, knocks back fan noise from 27dB to a low 22dB thrum.

When you're on a tight budget, you can't expect extravagances. So I can't complain about the lack of fast framerate technology on this model. That particular feature is reserved for BenQ's step-up W1200 model (around £200 more). However, motion resolution is limited as a consequence. The W1100 tops out at a measured 650lines.

But what this PJ lacks in fast moving detail, it gains in cinematic swagger. Image dynamics and colour fidelity are very impressive.

With TI's Brilliant Colour mode engaged, hues are striking without becoming seriously overcranked. I found yellows in particular tended to zing. Through the W1100, the vibrant hues of Forties Havana (*Chico & Rita*, Blu-ray) are utterly entrancing. Rita's rosy-red lipstick mesmerises Chico (and us) when they first meet, yet never dominates the colour palette.

The machine brings enough light to spare and there's a crisp bite to static detail. The black level is good; the W1200 tracked a 20/20 B&W greyscale with only minor pinching at each end of the scale.

It's easy to overdo the sharpness settings though. I'd argue the main Sharpness control should not be eased past 4 on the numerical scale. This is optimum to bring out believable detail and delineation, as is evident in *Chico and Rita*'s rotoscoped animation. Once I'd started watching, I just didn't want to turn it off.

Motion slickness

The projector does suffer from horizontal panning judder, but this is to be expected given the lack of glacial frame interpolation. On the upside, there's no motion artefacts to contend with either.

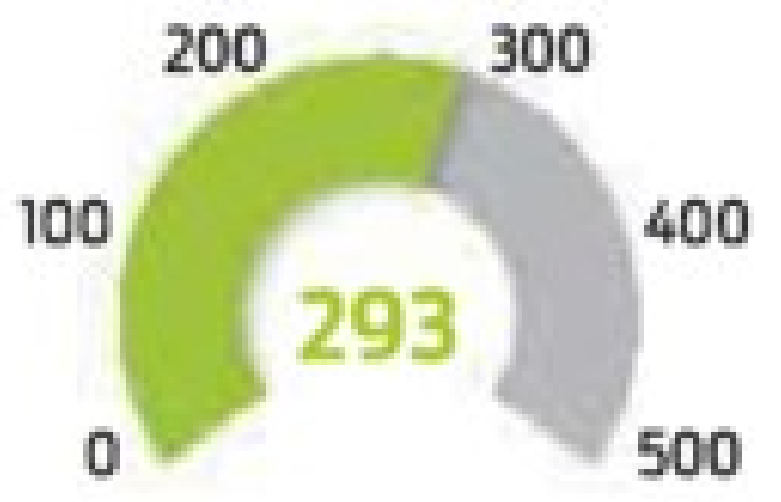
Although this is a single-chip DLP model, I wasn't disturbed by colour fringing or rainbows from the six-segment colour wheel. Even high contrast images barely registered a flash. It's very impressive.

Like so many tabletop projectors, the W1100 includes a modest amp and speaker. BenQ rates the output at 2 x 10W, although it certainly doesn't sound that loud. To make the most of its sound box, the projector employs SRS Wow HD sound processing. This aspires to boost bass response, raise the soundstage and widen the sound field. Make of those claims what you will.

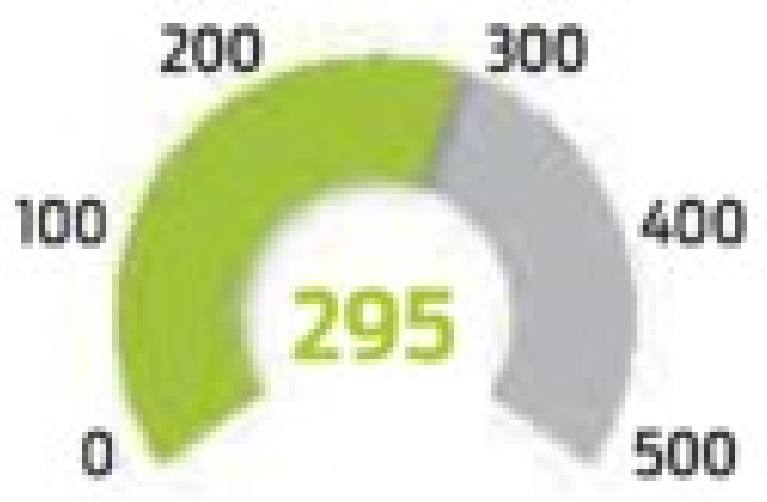
For a full HD projector, the W1100 is an unqualified steal. I love the Lasik sharpness of its images and the striking colour fidelity. This model definitely punches above its weight. Budget home cinema builders have never had it so good ●

→ Tech Labs

Power consumption: Watts

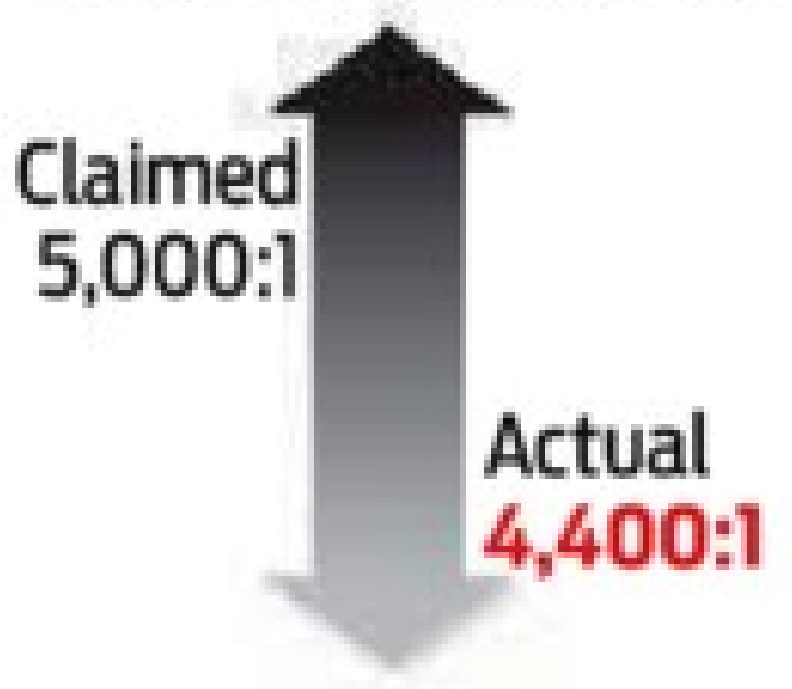


White screen: Introducing the Eco/Quiet lamp mode brings consumption down to 246W



Test footage: Little change in power consumption with movie footage

TV Contrast: Ratio



Picture: Contrast ration in the 'cinema' setting is 4,400:1, a little below the quoted spec, with a luminance of 15.4fL

Colour temp: Kelvin

Presets: Colour temperature can be adjusted for 6500K via red/blue white-point controls via the User mode
Standard: 8,200K
Dynamic: 7,400K
Cinema: 6,800K

AV/CV

Product:
Budget-priced full HD home cinema projector

Positioning:
Sits below the lookalike W1200 model, which adds frame interpolation and ISF calibration

Peers:
Samsung SP-A600; ViewSonic Pro8200

HCC VERDICT

BenQ W1100,
£900 Approx

Highs: Rich, cinematic images; little DLP Rainbow colour fringing, extensive parameter control
Lows: Low motion resolution; fan noise; no vertical lens shift

Performance: 1 2 3 4 **5**
Design: 1 2 3 **4** 5
Features: 1 2 3 **4** 5
Overall: 1 2 3 **4** 5

Samsung SAT-isfaction

Adrian Justins hunkers down with YouTube on this Freesat HD PVR

SAMSUNG
IPLAYER
freesat+

→ **Specifications**
HDD: YES 500GB
Tuners: YES Freesat (DVB-S/S2)
Upscaling: YES 1080p
HDMI: YES 1 x v1.3
Component: NO
Digital audio: YES Optical
Dimensions: 360(w) x 50(h) x 270(d)mm
Weight: 2.5kg
Features: 2 x Scart; composite video; stereo audio phonos; 2 x USB; 2 x LNB inputs; Ethernet; optional wi-fi adaptor; MP3, JPEG, AVI (XviD); FAT 16/32 flash memory compatible; Dolby Digital, DD+, DTS and PCM audio

If, like me, you love technology (and raw fish) it's impossible not to like Japan, so the addition of the excellent NHK World channel to Freesat's meagre portfolio of HD channels is a welcome boost to the platform on its third birthday.

Another boost is the arrival of Samsung's 500GB SMT-S7800, which is very much a direct competitor to the acclaimed Humax Foxsat-HDR, bearing very similar specs. The main differences are that the Foxsat-HDR comes in 320GB and 500GB variants, while the 500GB Samsung has YouTube and Windows Media Centre networking built-in.

The SMT-S7800 is a neat and well-built bit of kit. Despite a 12-figure LED window, USB socket, several logos and 11 touch-operation controls on the fascia, somehow it doesn't look ugly, but the bright blue LED on the front can't be disabled.

The box has all the right ports for most AV requirements, including twin LNB inputs and a USB for use with an optional wi-fi adaptor. The remote control is no beauty, but it is well designed and combines well with the menu system.

Put t'kettle on, mother

You can almost make a brew waiting for the box to power up, but once on, it's a joy to use as the GUI is attractive, intuitive and responsive.

Installation is handled adeptly by the built-in wizard, taking under two minutes to scan the Freesat satellite. A non-Freesat mode lets you scour inner space's cluster of satellites for extra channels.

The Freesat EPG and channel list are both well implemented, making it easy to find the shows you want to watch or record. A pity there's no manual recording option or chance to pad recordings, which leaves you relying on the broadcasters for accurate programme delivery.

Thin HD gruel

With Samsung shouting louder than most about the joys of Smart TV it's baffling to find such an incredibly low-calorie internet TV diet here. And it doesn't help that the YouTube serving is really tasty, leaving you yearning for even greater things. Online commentators will post a big FAIL against the BBC iPlayer, which impressively appears in the EPG, but then doesn't offer shows in HD. ITV Player is in the works.

As a media player the box is too fussy, with very limited file compatibility and an insistence on connecting to FAT 16/32-formatted Flash memory drives.

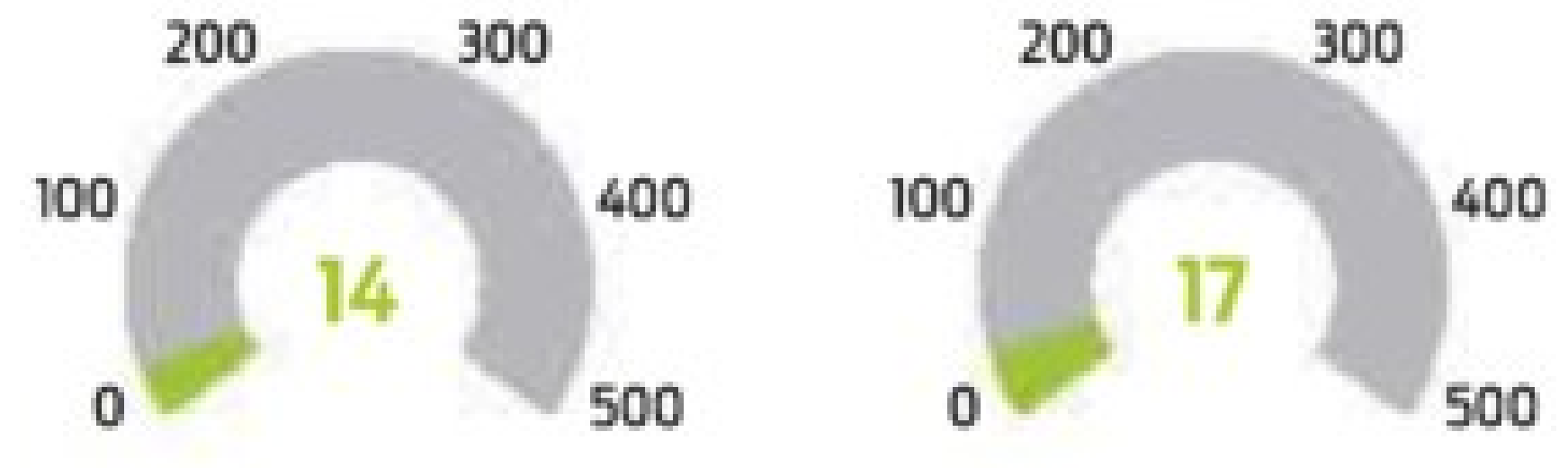
With Dolby Digital audio and top-notch HD images, plus a 1080p upscaler, the SMT-S7800 is more than capable of delivering excellent recordings and top-quality live broadcasts, too.

As a recorder it has some nice touches. For example, when a hidden recording ends, a brief message pops up. And when you finish watching a recorded show you're given an instant delete option. A shame its 'bonus' features don't really deliver, but overall the SMT-S7800 is a very good PVR and a worthy adversary for the Humax Foxsat-HDR ●

Frontal attraction: But the bright blue LED can't be turned off

→ **Tech Labs**

Power consumption: Watts



Idling: A higher tick-over figure than the brand's new BD decks

Recording: With the HDD called to action, power consumption increases a little

HCC VERDICT

Samsung SMT-S7800, £280 Approx

Highs: Attractive design and well-executed menu system; good AV quality

Lows: No manual padding of recordings; limited multimedia file compatibility; dearth of 'net TV

Performance: 1 2 3 **4** 5
Design: 1 2 3 **4** 5
Features: 1 2 **3** 4 5
Overall: 1 2 3 **4** 5

3DX POLAROTATOR → £850 APPROX → www.3dexperience.co.uk

Passive actively targets groups

Chris Jenkins checks out a curious 3D projection proposition

Active shutter 3D technology can be expensive, particularly if you want to cater to a large audience, but what if you could convert an active shutter 3D projector into a passive one? Then you could use the dirt-cheap passive polarised glasses of the sort you get in cinemas.

This is the idea behind the PolaRotator. Think of it as an active shutter 'window', which sits in front of the projector, synchronising with the alternating 3D frames, and turning them into circular-polarised images which can be viewed with cheap passive glasses.

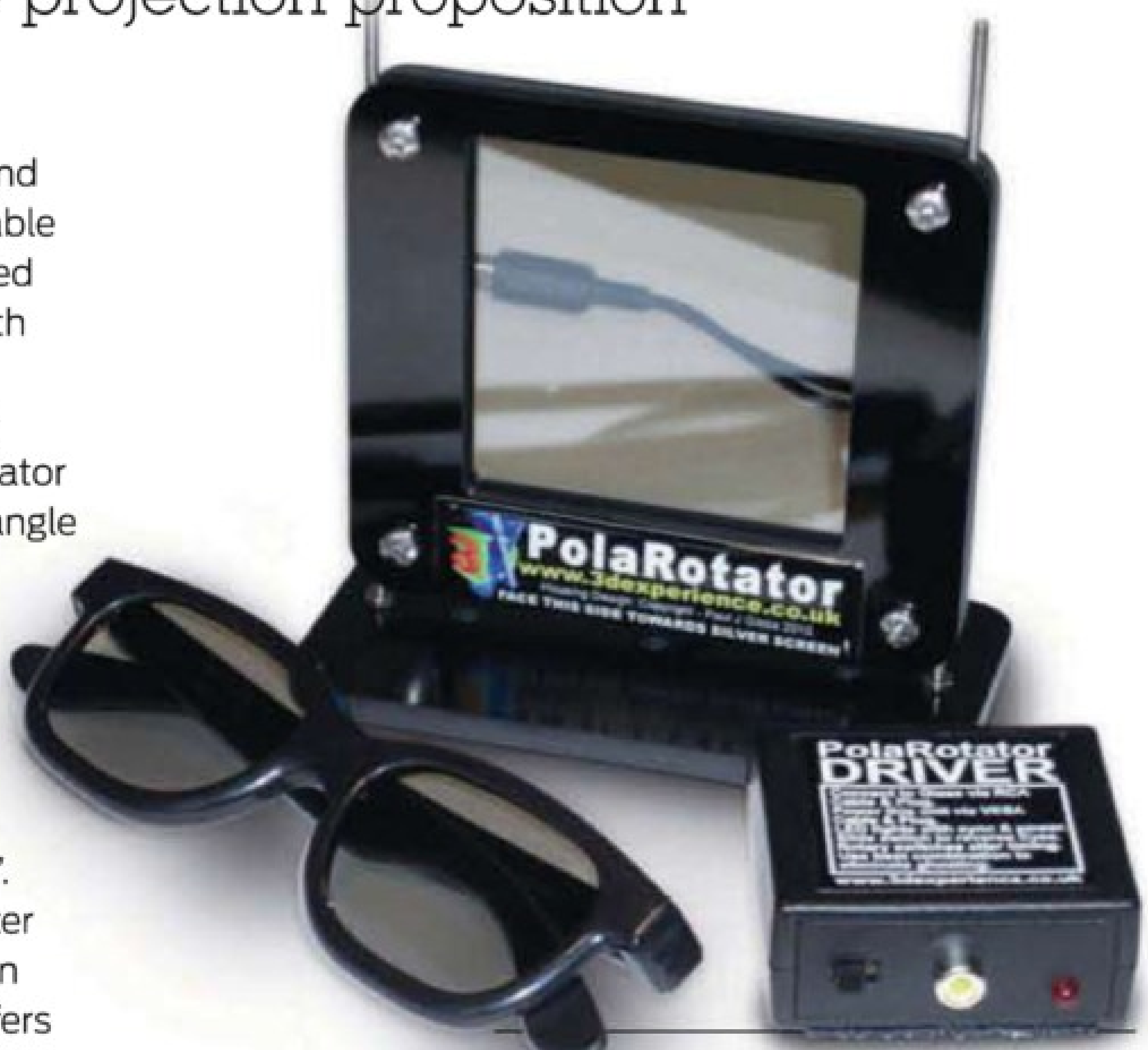
The system consists of the PolaRotator LCD device and stand, a driver box with controls for sync rate and eye reverse, and cables to connect to the VESA output of the sync source – which in our case was Optoma's 3D-XL converter – check with 3Dexperience for compatibility with other projectors.

Highs

- Our demo Optoma projector and 3D-XL convertor (normally viewable with active shutter spex) produced excellent 3D images viewable with cheap polarised glasses.
- Easy to set up and use, though some adjustment of the PolaRotator is necessary to get just the right angle for maximum effectiveness.

Lows

- It's not cheap; at this price it could only be viable for the pub, club or educational markets.
- It needs a special 'silver screen'. Ordinary projection screens scatter light too much for the polarisation effect to work. The distributor offers a range of laminated board portable screens up to 84ins, or if you're really serious you can buy material and make your own.
- No glasses are supplied (even for testing purposes!)



Mass appeal: the device means you can use cheaper 3D spex

HCC VERDICT
3DX PolaRotator
£850 Approx
Overall: 1 2 **3** 4 5

GEFEN TV VOLUME STABILISER → £180 Approx → www.gefentv.com

Hammer cracks volume nut

Late-night volume changes can be avoided, finds **Martin Pipe**

This system uses Dolby Volume, which is a technology designed to intelligently 'normalise' loudness to avoid the annoying volume jumps familiar to late-night telly addicts, when broadcasters turn up the sound for adverts. The tech, which was modelled on psychoacoustic research conducted by Dolby, is integral to recent TVs, AVRs and this Volume Stabiliser.

Gefen TV
AUTO
Volume Stabilizer
Bypass
DOLBY VOLUME
L/R
Coax
Optical

Highs

- The device is compact and powered by a 'wall-wart'. It's also very easy to use. Remote control is also possible, courtesy of a simple three-button handset.
- Both digital coax and optical and analogue inputs and outputs cater for just about everything.
- You can also use it to convert between analogue and digital audio, with or without processing.
- It works very well indeed, especially with TV sources. No subjective distortion of any significance is added, and quiet details become more apparent at low listening levels because they're boosted by Dolby Volume.

Lows

- Some sources – eg. classical music, suffer from squashed dynamics, but you can engage the bypass mode if this is found to be too intrusive.
- Doesn't work with 5.1 audio – it's two-channel stereo only.
- The addition of HDMI ports would have simplified connection to some applications. Naturally, only the audio would be processed here – any accompanying video would be passed through intact.
- It costs more than many Blu-ray players, largely on account of all the support circuitry that's necessary.

HCC VERDICT
Gefen TV Auto Volume Stabiliser
£180 Approx
Overall: 1 2 3 **4** 5

In Brief

L.A Noire
Rockstar Games
£45 Approx

XBOX 360
L.A. NOIRE

Fans of both film noir and adventure games will love this latest release from the company behind *GTA*. Eschewing that series' sandbox setting, *LA Noire* casts you as a rookie cop learning the ropes through a series of crime investigations. Beautiful to look at and captivating to play

1 2 3 4 **5**

Once driven, forever smitten

Quadral's Chromium 5.1 set makes a very good impression on **Ed Selley**

Quadral is not a UK household name. The German brand has been in business for nearly 40 years, but has only ever intermittently appeared in this country. Now the manufacturer is making a serious attempt on the UK market with its full range of products, of which the Chromium range is the second most pricey in the sizeable lineup. Tested here is a package comprising the £1,160 Chromium 50 floorstanders, £650 Chromium 30 standmounts, £410 Chromium 10 centre and £475 88DV sub. All parts are available separately.

From the moment that you extract them from the (well thought out) packaging, the attention to detail is superb for the price. The black gloss finish is flawless and extremely attractive and the attention to detail in the fit and finish of the cabinets is of a very high standard, including the must-have feature of the moment, magnetic grille tabs.

There are some interesting design details as well. The floorstanders have no provision for spikes to be fitted to the base. Instead a large, circular piece of glass attaches by screws. This base means that the Chromiums pass stringent German stability legislation and prove to be extremely hard to knock over. Another interesting feature is that none of the speakers can be bi-wired. All of them share the same terminal panel that sports a pair of hefty WBT plugs. For those keen on using bi-amp functions this might be a problem, but it suggests that Quadral do what they think will perform best rather than following the herd.

The Chromiums are described as a 'Style' system. In other words, much time has been spent making the product's looks live up to its sound quality. Quadral either didn't get this memo or decided to ignore it, as the insides of the Chromium's are far more interesting than the outsides. Most noticeable is the use of ribbon tweeters throughout. This isn't unheard of at the price, but rather than off-the-shelf units, the Quadral ribbons are bespoke and descended from the flagship Aurum units. The ribbon is folded inside the enclosure to increase the surface area, and the whole assembly is moved by a double magnet assembly.

The main driver is also used across all the speakers. This is a 135mm unit that is once again proprietary. The dish is a polypropylene assembly coated in a specially mastered titanium mixture and that's not a combination seen anywhere else. As the cabinet enclosure is relatively small it is a long-throw design that manages to give the 94cm tall Chromium 50's an eyebrow-raising frequency response of 35Hz to 65kHz. An identical driver complement throughout bodes well for a seamless handover between the units.

Burly chassis

Amongst all this technical wizardry, the 88DV subwoofer is relatively conventional. In an area increasingly dominated by Class D and Class T designs, it uses a conventional class A/B amp with attendant heatsink on the rear panel. There is no additional EQ software or notch filtering, and we gained the best results leaving crossover and level settings to the AV receiver. The downward firing driver feels pretty burly and the front port made it easy enough to place in a number of different locations.

Setup of the Quadrals proved relatively simple from the outset. They are rear ported so placement some way from rear walls helps, but otherwise they are unfussy. The

>

High pedigree: Chromium's ribbon tweeter tech has filtered down from Quadral's flagship Aurum range

HOME CINEMA Choice
★★★★
BEST BUY

AV/CV

Product:
5.1 midrange speaker system

Positioning:
Second in the Quadral lineup

Peers:
PSB Imagine Series;
XTZ 99 5.1;

Alluring build: Magnetic grille tabs and the gloss black finish mean these cabinets look good in your room

ribbon tweeter gives a relatively large sweet spot so there is little sign of 'beaming' in their presentation, and it is possible to be in a variety of listening locations and not feel out of place. They are not hugely sensitive so will benefit from a reasonable power output to show what they are capable of, but the impedance seems to stay nearer the 8Ω mark than the 4Ω, which means they provide an easy electrical load.

Ab fab

Given this is one of the most keenly contested price points for speaker packages, why should you seek out the Quadrals over the countless other brands that can produce something similar? The answer is because the Chromiums sound absolutely fantastic.

Set up and with a few hours under its belt, this is one of the most cohesive sounding speaker systems out there. Ribbon tweeters can occasionally have trouble integrating with conventional pistonic drivers, but the fact the Quadral has developed these drivers entirely in-house and in partnership with one another gives them incredible top-to-bottom cohesion. It is very difficult to determine where tweeter ends and mid bass begins and the use of the same driver everywhere makes for a superb handover from left to right and front to back.

The awards magnet that is the *The King's Speech* is not an explosion fest, but the soundtrack is a feast of incidental details that combine to create a wonderful sense of atmosphere. The Quadrals are able to reproduce this detail with an effortlessness that is apparent only when you compare other speakers. What is simply background effect for many systems is a wealth of individual details. They manage to sound uncannily real, as well. Voices and sounds are rarely less than utterly believable. This combination of scale, realism and detail means the Quadral's are able to get the best from pretty much any soundtrack you throw at them.

Switch to the more muscular mayhem of *Unstoppable* and the Quadrals maintain the same incredible insight into the soundtrack. They happily step up as the action does, too, going very loud indeed without signs of stress, while conveying the action with real vigour. Compared to some subwoofers, the 88DV trades absolute depth for speed and agility, not least because it needs to keep up with the loudspeakers. There are some designs available for a little more outlay that will go lower and drive harder, but you will need to make sure that they can match the speed and clarity that the 88DV possesses.

In a typical UK lounge, the Quadrals manage to fill a room with sound without dominating or overpowering it. If you live on a diet of pure action you may want more low-end heft. If your preferences are in any way more varied than that, the Quadral's are supremely accomplished all-rounders. This extends to music, where the same smooth handover between drivers and excellent tonality puts them very near the top of the tree for two-channel work.

Can't get wood

There are very few negatives to this package. A dedicated effects speaker might best the Chromium 30 in a surround role and those seeking a wood finish will need to go elsewhere. But if you are looking for some of very best drivers available at the price in a beautifully finished, handsome enclosure, the Quadrals will take a huge amount of beating. There is no shortage of choice in the £2,500 speaker package category, but when a new arrival is this good, there is always space for one more ●

→ Specifications

Chromium 50 Floorstander

Drive Units: 2x 135mm Polypropylene/ Titanium sandwich, Titanium ribbon
Enclosure: Rear Ported
Frequency Response: 35hz-65kHZ
Sensitivity: 88dB
Power Handling: Not disclosed
Dimensions: 166(w) x 941(h) x 242(d)mm
Weight: 12.2kg

Chromium 30 Standmount

Drive Units: 1x 135mm Polypropylene/ Titanium sandwich, Titanium ribbon
Enclosure: Rear Ported
Frequency Response: 40hz-65kHZ
Sensitivity: 87dB
Power Handling: Not disclosed
Dimensions: 166(w) x 319(h) x 242(d)mm
Weight: 5.5kg

Chromium 10 Centre

Drive Units: 2x 135mm Polypropylene/ Titanium sandwich, Titanium ribbon
Enclosure: Rear Ported
Frequency Response: 49hz-65kHZ
Sensitivity: 88dB
Power Handling: Not disclosed
Dimensions: 550(w) x 166(h) x 242(d)mm
Weight: 7.7kg

SUB 88DV Activ

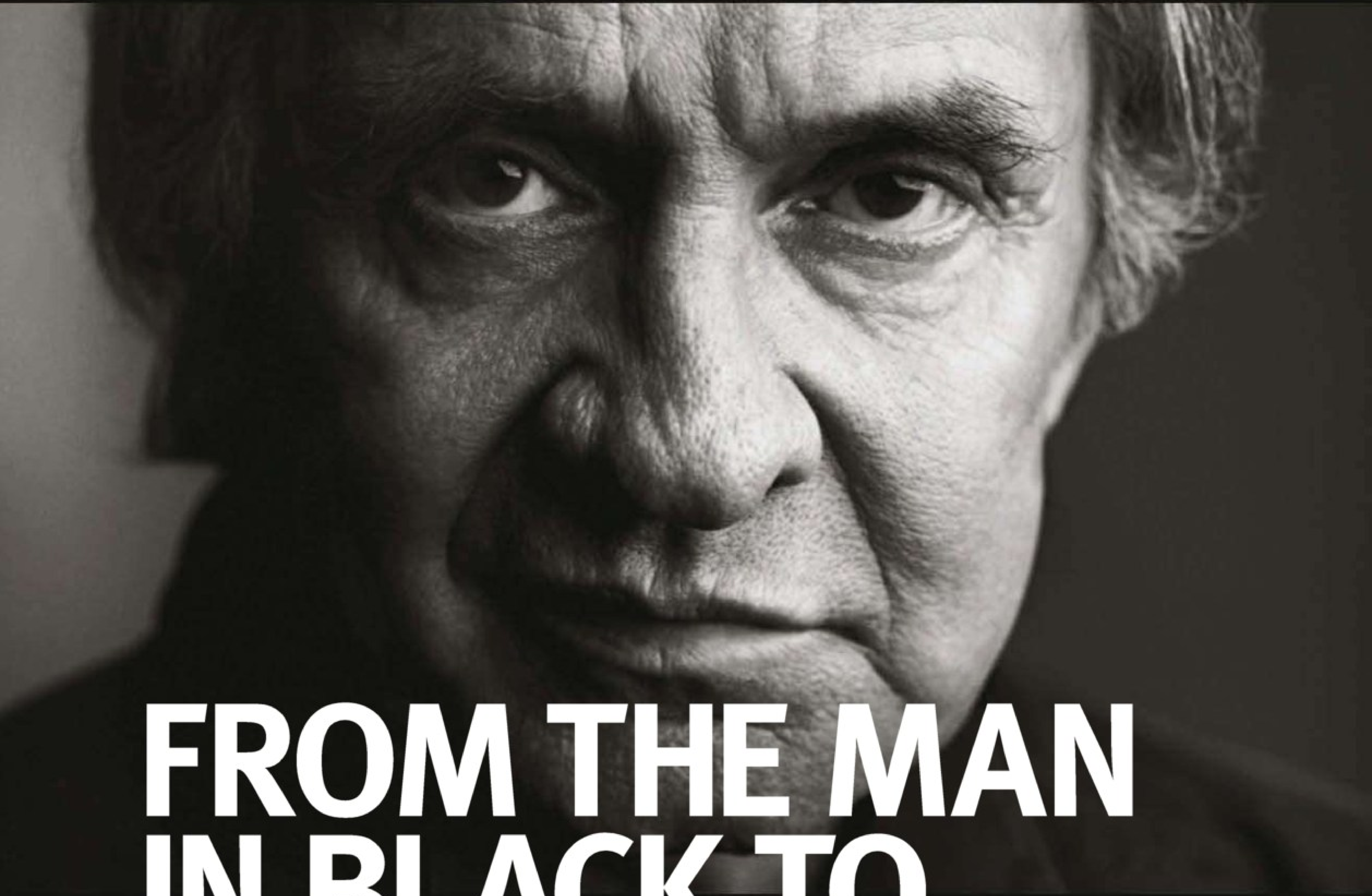
Drive Unit: 250mm Fabric coated paper woofer
Enclosure: Downward firing ported
Frequency Response: 22Hz-150Hz
On board power: 150W
Dimensions: 319(w) 395(h) x 400(d)mm
Weight: 14.8kg

HCC VERDICT

Quadral Chromium
Approx £2,700

Highs: Superb performance; easy placement and setup; strong build and handsome aesthetic
Lows: Subwoofer trades speed for absolute depth; no wood finish

Performance: ①②③❹⑤
Design: ①②③④❺
Features: ①②③❹⑤
Overall: ①②③❹⑤



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Cinema Paradiso
A director returns home after 30 years, reminiscing about his first love and the man who introduced him to film.
DACAL
Label
kaleidescape
kaleidescape

True Blu server

Kaleidescape's market-leading networked playback system now embraces hi-def discs to great effect, as **Martin Pipe** discovers

In previous reviews, I have extolled the virtues of the impressive Kaleidescape networked AV system. Although highly expensive and intended for professional installation (bar the one-box Mini, since renamed the Cinema One), there's nothing to beat its smoothly presented and intuitive method of selecting DVDs and CDs for playback. And now Kaleidescape has added Blu-ray to the mix...

With the exception of the Mini/ Cinema One, a Kaleidescape system consists of two types of component. The first is a powerful media server, located in an equipment room or basement, that contains a number of high-capacity hard drives. Your movies and music are copied bit-by-bit and stored on these during the importation process, and RAID-K technology minimises the chance of losing anything in the event of a drive fault. One or more players are connected via the network, located in the rooms where playback is required. Everything is built from high-end hardware, and has the same levels of performance that can be expected from top-flight AV gear.

Kaleidescape has two new players that offer Blu-ray compatibility, the compact M300 and the M500 tested here. The latter includes an in-built Blu-ray/CD/DVD drive for direct playback and importation. Although the importation service offered by Kaleidescape dealers now caters for Blu-rays as well as CDs and DVDs, it is advised to have at least one M500. so that you can easily import new discs into your system as and when they are acquired.

AV/CV

Product: State-of-the-art networked CD/DVD/ Blu-ray playback system

Positioning: Mid to high-end (scalable); above entry-level 'Cinema One' system

Peers: None

And servers? All existing and current models will work, but the newer ones boast the capacities needed to accommodate a decent collection of Blu-ray content. There are two types of server. One, which is 1 rack-mount unit ('1U') high, contains four cartridge-loaded 2TB drives and can accommodate

→ Specifications

3D: NO
Multi-region: Sort of. Player can be region changed up to four times – you could have two players, set to different regions
SACD/DVD-A: NO/NO
Component: NO
HDMI: YES 1 output per player
Upscaling: YES Up to 1080p (HDMI)
Digital audio outputs: YES 1 coaxial, 1 optical
Dolby True-HD/DTS-HD decoding: NO/NO Lossy-core only
Dolby True HD/DTS HD bitstream: YES/YES
Profile 2.0: YES
Dimensions (M500 Player): 445(w)x 43(h) x 350(d)mm
Weight (M500 Player): 4.6kg
Also featuring: CD/DVD/Blu-ray drive for importing/playing media; GUI; integrates with other Kaleidescape products; 10-bit 4:4:4 video processing; motion-adaptive deinterlacing; Ethernet port; KEAOS operating software; flexible server storage options

up to 900 DVDs, 150 Blu-rays, approximately 10,000 CDs or a mix of the three. The higher-spec model is 3U high and its 14 cartridges basically quadruple the storage capacity of the 1U server. The 3U model's fourteenth cartridge is a 'hot spare', provided for extra protection. If even greater capacity is required, multiple servers can be used.

For Blu-ray playback, a third component becomes necessary. This 100-disc Blu-ray carousel, referred to by Kaleidescape as a Modular Disc Vault, is the key to how the company has managed to placate the studios. Any Blu-ray disc that has been imported onto the server has to subsequently be loaded into this vault, which is connected to one of the players via a USB. You cannot play a previously imported Blu-ray if the physical disc is not present – its entry in the various movie lists is greyed out. Mercifully, there's no clunking from the vault when a Blu-ray is selected for playback; indeed, the only time there's any vault activity is when the disc is loaded (or being imported).

And it's perhaps just as well that it's so quiet. As the vault is connected to one of the players – rather than the server – it will, by definition, be located in one of the rooms where movies and CDs are required. Unfortunately, the vault is rather ugly sporting a black trunk with a blue LED display. Stylewise, the vault couldn't be more at odds with the sleek-looking Kaleidescape player if it tried. It needs to be tucked away out of sight, for it is almost guaranteed to clash with the plush furnishings of the room in which this sort of system will be installed. Kaleidescape acknowledges this, explaining that the vault was essentially a bought-in solution intended to speed up the readying of its systems for Blu-ray.

Work is also underway on a combined M300-class player and 320-disc carousel, which could be on sale later this year. This 'Integrated Disc Vault' will be a whopping 5U high. That may cause problems for those upgrading older systems based around the KPLAYER-6000, especially if custom cabinets are involved. Kaleidescape suggests installing one Integrated Disc Vault in the equipment room alongside the servers. Fair enough, but this does mean that you're wasting a player!

As far as I'm concerned, it's a pity that Kaleidescape didn't consider a rack-mounted vault that interfaces with the rest of the system via Ethernet. Under normal circumstances, after all, little data traffic is involved. Having said that, the current vault can also be used to import Blu-rays *en masse*. The forthcoming Integrated Disc Vault will import DVDs and CDs too.

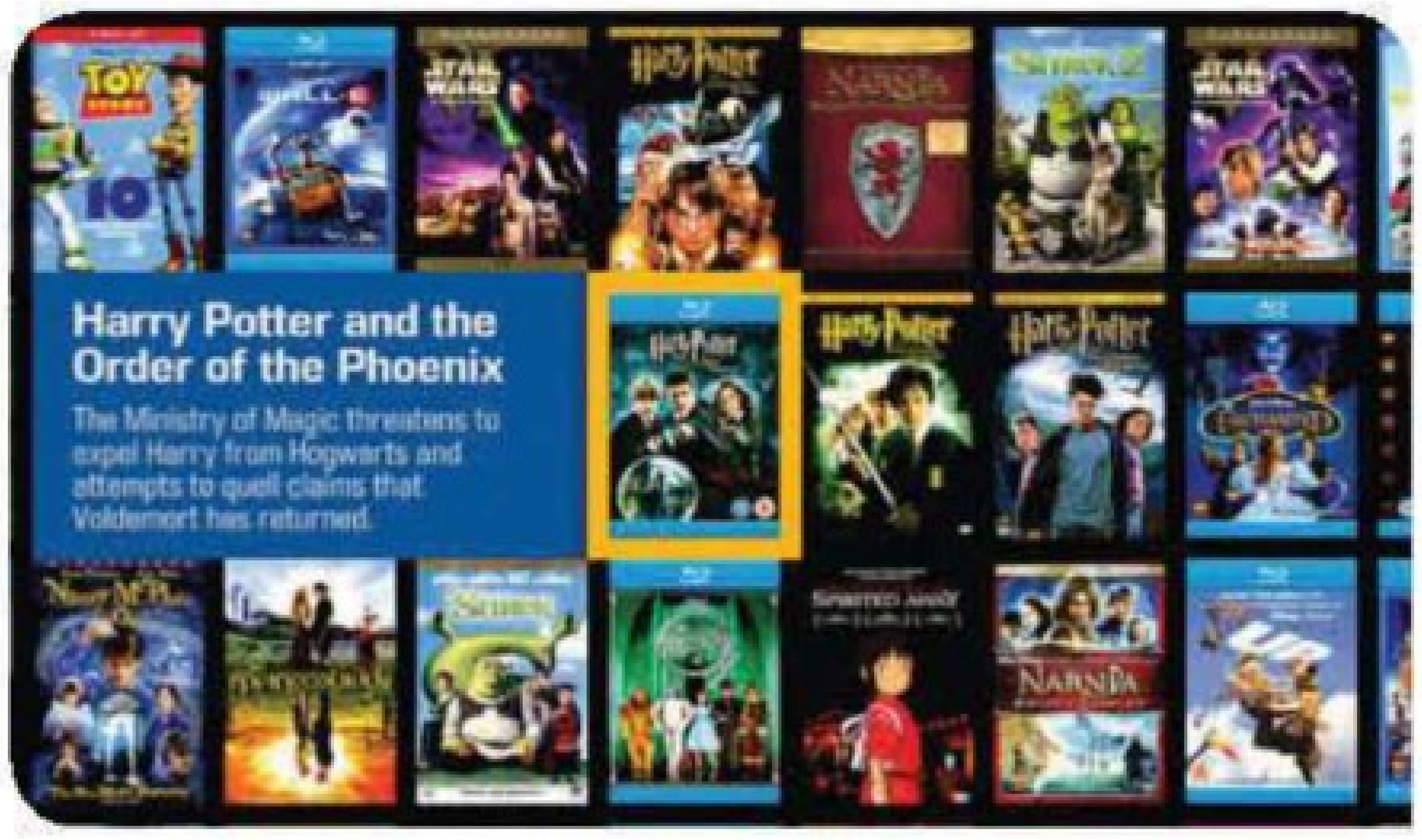
Performance

With my demo system plumbed in, importing a recent Blu-ray (*Toy Story 3*) took just under an hour. DVDs are, however, much quicker and you can watch previously imported media while the task proceeds.

Your system must have a valid internet connection, otherwise the unique Kaleidescape metadata cannot be obtained. In addition to cover art, this includes information about the movie or CD. For some concert Blu-rays, the tracklists even include material that was included in one of the special features rather than the movie itself.

On the subject of music, I discovered a useful feature when configuring the system for 1080p24 via its web interface. **A program stored on the server, known as 'Conductor', will export your Kaleidescape music collection into iTunes** so that it can be experienced on an iPod. Not got an iPod? The albums are placed on your computer's hard disk in a series of folders. Three quality levels are available, but none of them is an uncompressed (PCM) option. A pity, considering that CDs are held on the servers in this raw form.

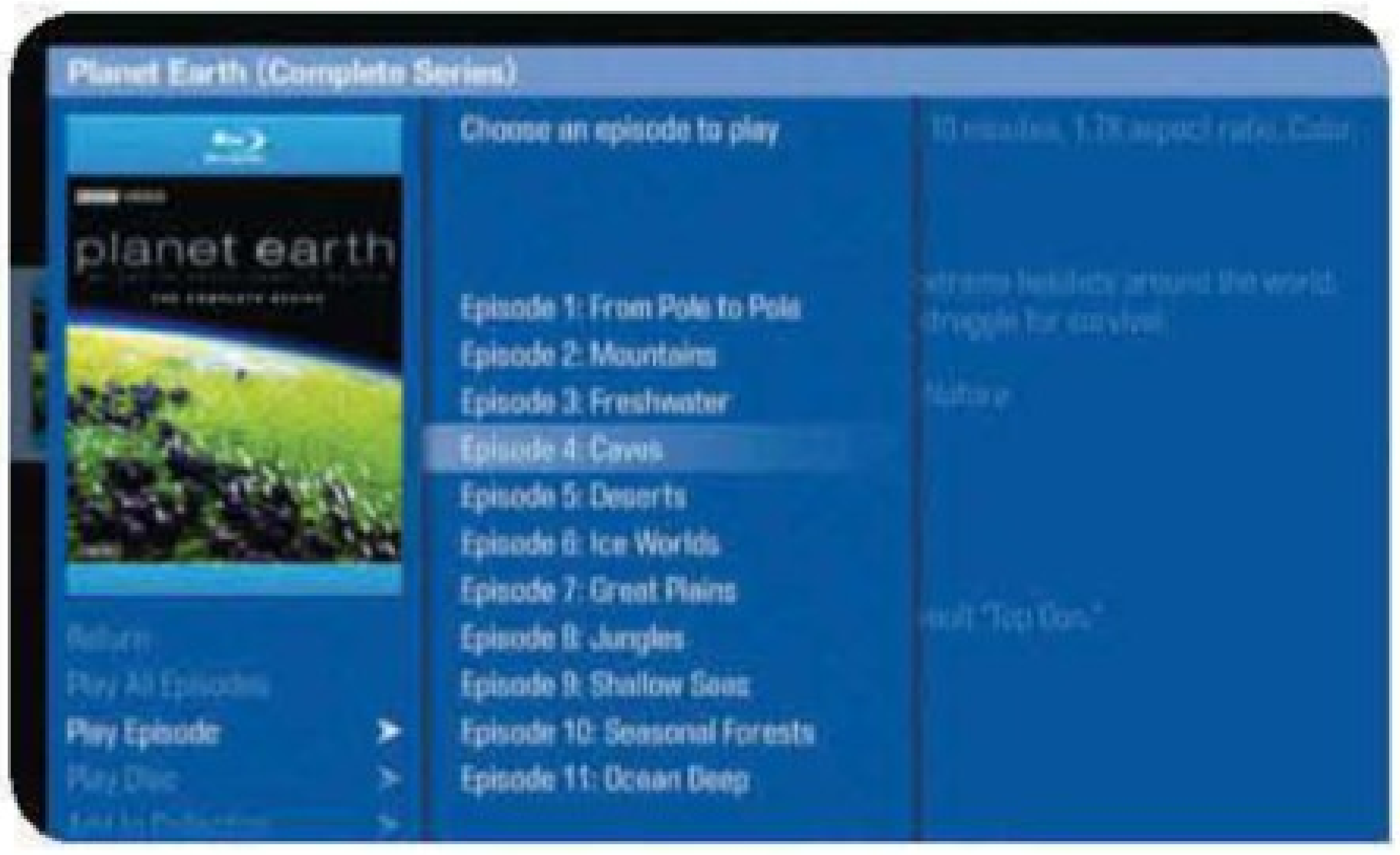
But the main reason for taking the Kaleidescape route is the sheer ease with which it will allow you to enjoy



Harry Potter and the Order of the Phoenix

The Ministry of Magic threatens to expel Harry from Hogwarts and attempts to quell claims that Voldemort has returned.

GUI: The cover art interface makes browsing fun



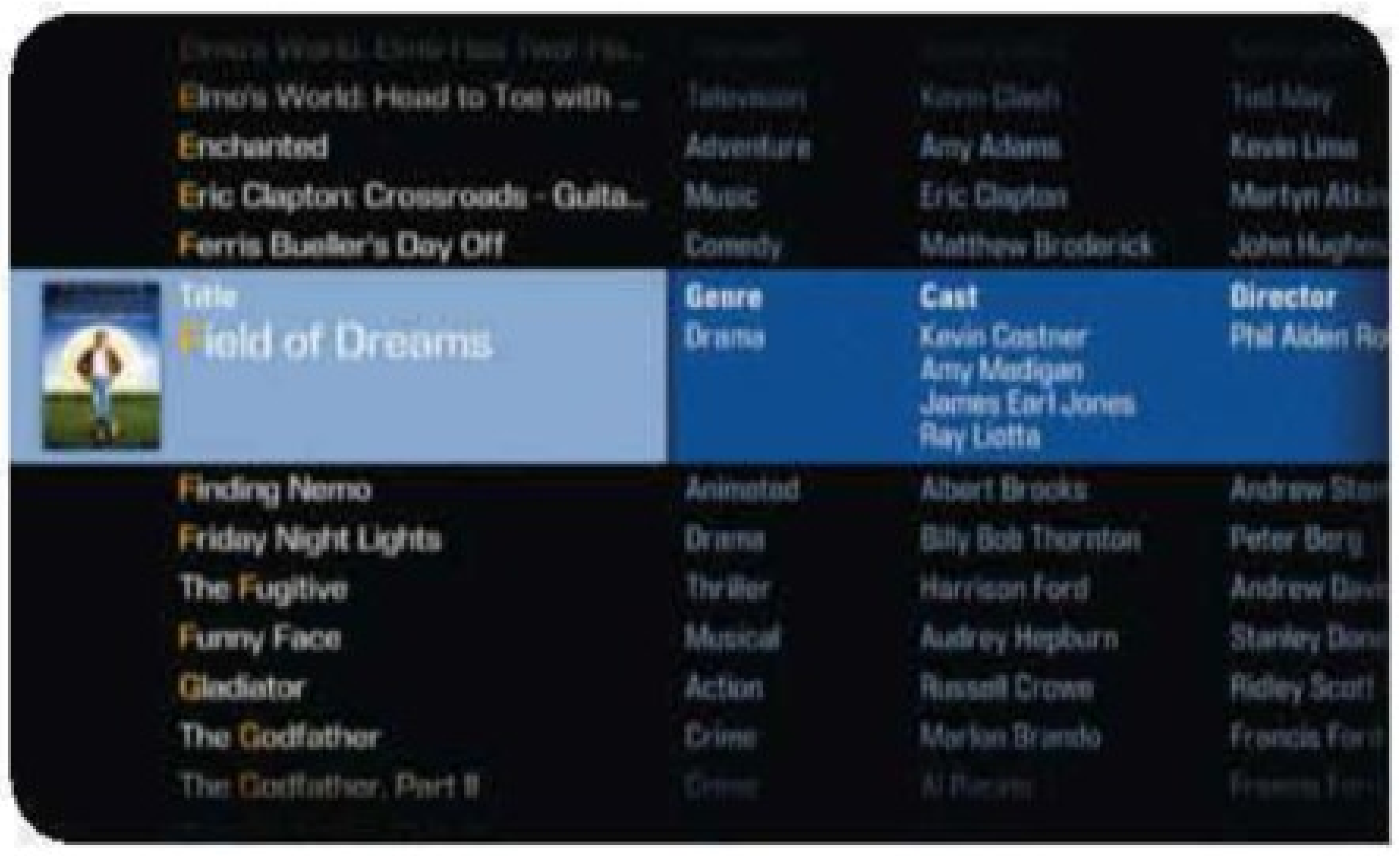
Planet Earth (Complete Series)

Return
Play All Episodes
Play Episode >
Play Disc >

Choose an episode to play

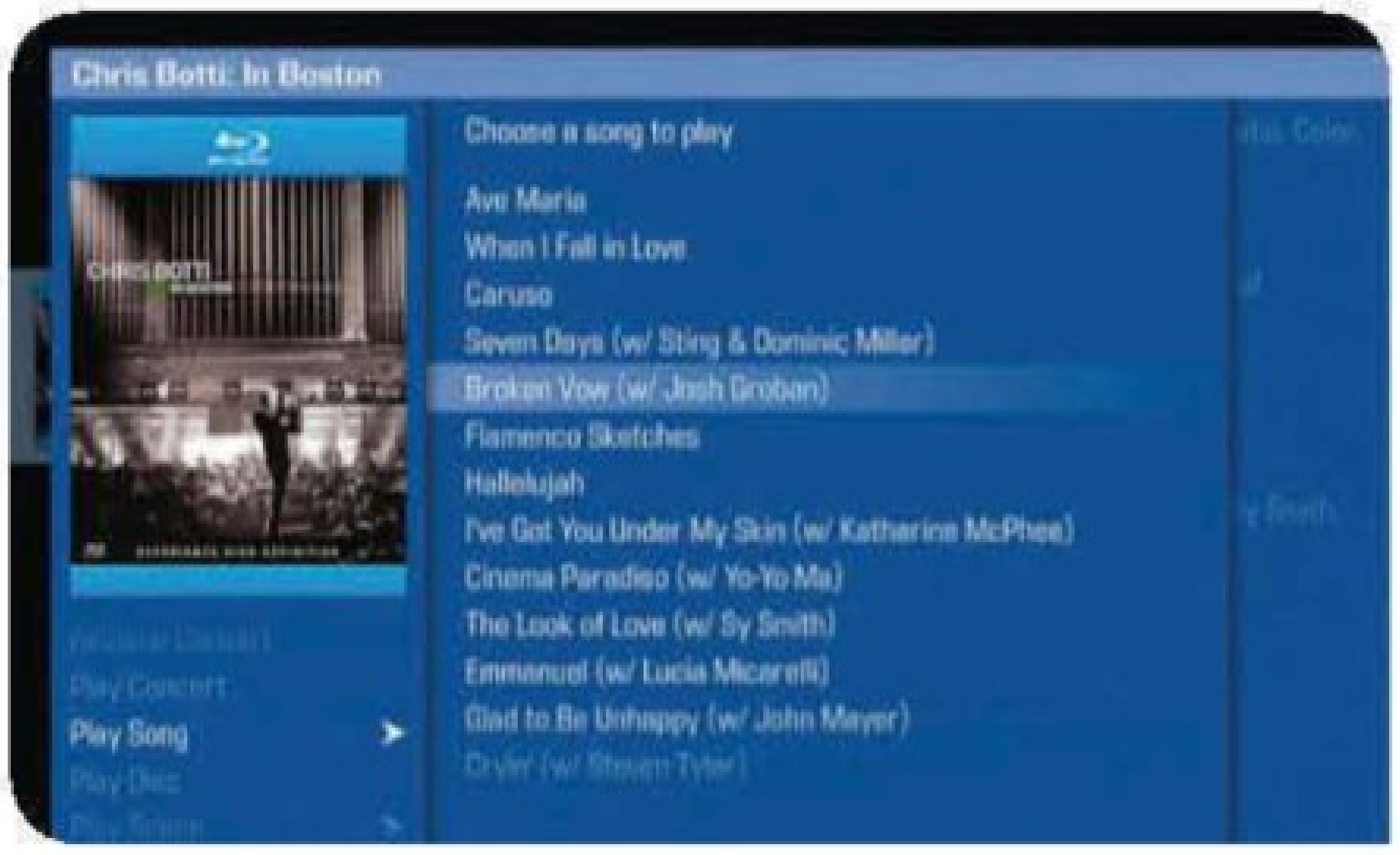
Episode 1: From Pole to Pole
Episode 2: Mountains
Episode 3: Freshwater
Episode 4: Caves
Episode 5: Deserts
Episode 6: Ice Worlds
Episode 7: Great Plains
Episode 8: Jungles
Episode 9: Shallow Seas
Episode 10: Seasonal Forests
Episode 11: Ocean Deep

Dig in: Searching through box sets is painless, too



Title	Genre	Cast	Director
Elmo's World: Head to Toe with ...	Television	Kevin Clash	Ted May
Enchanted	Adventure	Amy Adams	Kevin Lima
Eric Clapton: Crossroads - Guita...	Music	Eric Clapton	Martyn Atki
Ferris Bueller's Day Off	Comedy	Matthew Broderick	John Hughe
Field of Dreams	Drama	Kevin Costner Amy Madigan James Earl Jones Ray Liotta	Phil Alden Ro
Finding Nemo	Animated	Albert Brooks	Andrew Sta
Friday Night Lights	Drama	Billy Bob Thornton	Peter Berg
The Fugitive	Thriller	Harrison Ford	Andrew Dav
Funny Face	Musical	Audrey Hepburn	Stanley Don
Gladiator	Action	Russell Crowe	Ridley Scott
The Godfather	Crime	Marlon Brando	Francis For
The Godfather, Part II	Crime	Al Pacino	Francis For

Search me: Metadata includes genre, cast and director



Chris Botti: In Boston

Play Concert
Play Song >
Play Disc

Choose a song to play

Ave Maria
When I Fall in Love
Caruso
Seven Days (w/ Sting & Dominic Miller)
Broken Vow (w/ Josh Groban)
Flamenco Sketches
Hallelujah
I've Got You Under My Skin (w/ Katharine McPhee)
Cinema Paradiso (w/ Yo-Yo Ma)
The Look of Love (w/ Sy Smith)
Emmanuel (w/ Lucia Micarelli)
Glad to Be Unhappy (w/ John Mayer)
Cryin' (w/ Steven Tyler)

Get in tune: Concert BDs break down into tracklists

your movie and music collections. Shown onscreen is a carousel of covers, which you can whizz around via the backlit handset. An alternative is the category list (one is dedicated to Blu-ray). The system will even shuffle covers, so that titles similar to what you've just played are more visible.

And although Kaleidescape will jump to a feature film – thereby

>

Load 'em up: Kaleidescape's Disc Vault can be used to import titles, too

skipping trailers and so on, you can still access the disc menu and explore special features.

Performance is of the same standard as a high-end Blu-ray player. That means sheer visual involvement, especially from BD discs. An expansive depth, razor-sharp detail, complete freedom from streaming 'glitches' and unquestionable colour fidelity characterise what you'll see on a display of appropriate pedigree. They're accompanied by faithfully excavated soundtracks; naturally, HD audio is supported via HDMI. Upscaled DVDs are also deftly handled, but those with the highest-quality displays or top-notch scalers might want to experiment with the native (480i/576i) options that the Kaleidescape's web-driven configurator gives you for standard-definition content. Independent output modes for HD and SD content? An excellent idea, and one that should be adopted by other manufacturers.

Successful step

To sum up, Kaleidescape has successfully brought its superb system into the Blu-ray era. I do have reservations, though. Not only about where the vault is located, but its 100-disc limit (dedicated movie fans could easily have more than 100 BDs) and the lack of 3D Blu-ray support. The forthcoming Integrated Disc Vault will remedy the former, but will it also take Kaleidescape owners into the next dimension?

HCC VERDICT

Kaleidescape M500 Player, 1U Server, Modular Disc Vault)
£12,500 Approx

Highs: Top-flight performance, sets the gold-standard for usability

Lows: BD vault has to be co-located with a player; music export compressed only; no 3D support

Performance: 1 2 3 **4** 5
Design: 1 2 3 **4** 5
Features: 1 2 3 **4** 5
Overall: 1 2 3 **4** 5

Keeping the studios and kids happy

Linus Wong, Kaleidescape's Director of Product Marketing, explains the development of its Blu-ray capable system

kaleidescape
OK

Child's play: The egg-shaped remote gives young 'uns access to a text-less interface

So you've managed to add Blu-ray to your server solution...

Yes and it required huge investments in engineering, UI design and legal analysis, to ensure that our solution complies with all the agreements we have signed. One way of complying is to require that a Blu-ray disc be present during playback. This led to the development of the disc vault, a component that keeps a large number of discs present so that the copies stored on the server are available for instant playback. In this way, the system delivers the same experience for Blu-ray that it has always provided for DVD.

Why is the vault located at the player end, rather than the server end?

In order to read a disc, you need player functionality. Instead of actually playing the disc, though, we're making a bit-for-bit copy of it. Whether or not we locate it close to a server, the carousel requires the hardware of a player in order to operate as an import device. And so it's part and parcel of the setup. Perhaps you don't need some of the electronics involved in decoding and playing it back – but the rest of it is required! This is why the Modular Disc Vault connects to a player via USB; it's really the player that's controlling the vault.

What upgrades are available for existing customers?

Any Kaleidescape System can be upgraded to support Blu-ray with the addition of an M300 or M500 and most customers will also want to add one or more Modular Disc Vaults, so that Blu-rays imported onto the server can be played without the need to handle the disc. Existing servers are completely compatible with the new components, but storing Blu-rays consumes more space than storing DVDs. Those who choose to add storage can add disk cartridges to an existing server, or add an additional server altogether.

What's the thinking behind the child remote?

It's an egg-shaped remote that comes in bright primary colours, and resembles a toy – kids love it – but the compelling benefit is what happens when it's used. With the press of any button, the onscreen display switches to a simplified user interface which only offers graphical navigation of covers. No text and no menus. The child only sees the movies parents add to the Child collection, providing a safe 'walled-garden' of content.

This feature was motivated by the fact that many of our customers are families with young children. It works with any player, but much of children's content is purchased on DVD, so it's included with the Cinema One DVD movie server

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Finding a happy medium for 3D

Samsung's step-down D7000 series doesn't cut on spec at all, as **John Archer** finds out when he powers up the 40in model

Like its UE55D8000 sibling reviewed previously, the UE40D7000 is a mighty stylish TV, with a bezel that's so slender (barely a centimetre) that it's barely there at all. Moreover, the slimness is emphasised by the fact that most of the frame is transparent.

The design is perhaps not quite as opulent as that of the D8000 series, with its more metallic finish, but many people might prefer the D7000's more subtle approach.

The main remote control you get as standard is a pretty likeable affair, sporting a sensible layout and nice finish, although it's not as fashionable as the TV itself.

The D7000's spec sheet quickly reveals a welcome surprise: apparently the set's features don't differ in any significant way from that of the D8000 series, and the only aspect that separates the two ranges is the latter's higher build quality.

It's rather nice to think that you can save yourself £100-£150 or so by getting the D7000, while only having to compromise on design.

Heading up the screen's features is, of course, its 3D playback. This uses active 3D technology, with one pair of active shutter glasses thrown into the package. This is more than you get with Panasonic's GT30 3D series, but well short of the seven free pairs of (polarised) glasses you get with LG's passive 3D TVs.

Samsung has now shifted to Bluetooth technology for its 3D glasses, believing this delivers a more stable connection with the TV's transmitter. The brand has also created some optional designer glasses, which are intended to prove that active shutter glasses don't have to be cumbersome and heavy.

Staying with the set's 3D features, it carries a 2D to 3D conversion process that works using five different visual depth 'cues' versus the two or three used by other brands' 2D-3D converters. This really makes a difference, too, as a combination of more depth and less depth errors help Samsung produce the best upconverted 3D image yet.

The set's other party trick is its Smart TV functions. Essentially, this is a big upgrade of Samsung's 2010 Internet@TV online service, introducing loads more new 'apps', an open internet browser and a brilliant new interface.

Starting with this interface, Samsung has essentially designed a new 'home page' for the D7000 that presents you with icon-driven leap-off points to nigh-on all your sources, be they an AV input, material streamed from your DLNA PC, content stored on USB sticks or HDDs (you can also record to HDDs from the Freeview HD/Freesat HD tuners), and Samsung's latest bank of online content delivery platforms.

There's even a universal search tool on this 'home page', which enables you to browse all your available sources, including the web, for particular TV shows or files.

Samsung's online features include the best part of 40 apps (this will inevitably increase), covering everything from games through to news, information, social networking and video sources. Among the best of the apps are LOVEFiLM, Yahoo, Skype, Acetrax, Facebook, Twitter, the BBC iPlayer and Googlemaps.

Balancing act

Picture tinkerers will find plenty to keep them busy on the D7000, including a healthy degree of colour management, all manner of processes for boosting colours, contrast and black level and, best of all, lots of flexibility and control over the motion processing. Dubbed Motion Plus, and backed up by Samsung's '800CMR' system, you can adjust the amount of processing applied to its judder and blur components, a level of flexibility that proves immensely helpful in achieving a balance where motion looks cleaner without the picture looking processed.

Unleashed on both a recent 3D football match on Sky and the 3D *Green Hornet* Blu-ray, the D7000 proves a very good stereoscopic performer. The amount of detail in its 3D pictures is particularly excellent, leaving the *Green Hornet* disc looking as crisp and textured in 3D as it does in 2D. It has to be said that this resolution advantage of active 3D over passive isn't as pronounced on >

→ Specifications

Full HD: YES 1080p/24
Tuner: YES Freeview HD and Freesat HD
Component video: YES one input
HDMI/DVI : YES four, including v1.4 options
PC input: YES one D-Sub **Resolution:** 1,920 x 1,080
Sound: 20W **Brightness:** N/A **Contrast ratio:** N/A
Dimensions (off stand): 956(w) x 588.4(h) x 23.9(d)mm
Weight: 12.8kg
Also featuring: '800CMR' motion processing; Smart Hub, open Internet access; ring-fenced online features; USB media playback (MP3, JPEG, multiple video support); AllShare PC connection; LED Motion option; 2D-3D conversion; active 3D playback; one pair of 3D glasses included; Bluetooth 3D transmission system; 10p White Balance adjust; edge enhancement

HOME CINEMA Choice ★★★★★ BEST BUY

AV/CV

Product: 40in edge LED TV with built-in active 3D playback and new Smart Hub multimedia functionality

Position: The 40D7000 is supposedly a step down from the D8000, but the differences are only aesthetic

Peers: LG 42LW550T; Panasonic TX-P42GT30

The main difference between the D7000 series and the D8000 is the bezel design

SMART HUB
Search All
Your Video
Samsung Apps
Stay tuned in any room.
Recommended
Picasa
USA Today
Facebook
Twitter
Skype
Accuweather
Favorite
Channel
Guide
Movies
Photos
Music
Schedule Manager
Source
Google Maps
Wise Star
Dynamic Bowling
MiniMini Cook
Chris.Ford
A Log-out
B Sorting
C Edit
D Setting

Smart Hub: More apps than you could shake a stick at, plus an unlimited web browser

the D7000's 40in screen as it is on the much larger 55D8000, but it's certainly there.

The football match, meanwhile, as well as bright scenes on the Blu-ray, such as the Black Beauty burial sequence, look impressively punchy and dynamic, reminding us that Samsung's LED 3D TVs suffer less from dramatic brightness reductions in 3D mode than most active shutter televisions.

Shadow play

A handy knock-on effect of this 3D brightness is that there's more shadow detail in dark parts of the picture than you usually see. This is particularly evident in the apparent depth of the backgrounds of the nighttime *Green Hornet* scenes, such as the decapitation of his father's statue in the park

There's hardly any crosstalk during dark scenes, either, marking a big improvement from last year's Samsung 3D LED TVs. There is, however, minimal crosstalk during very bright scenes, and more than I saw on the latest Panasonic 3D plasma TV (see page 38).

Given that 3D will only occupy a small amount of your viewing time, it's all the more important that the D7000 is also a great 2D performer. It upscales standard-definition material with real aplomb, adding detail and sharpness, while simultaneously suppressing noise without compromising colour tones. HD footage, meanwhile, enjoys immense sharpness and clarity, underlined by one of the most expansive contrast performance I've seen from a 40in LCD TV.

What's more, provided you don't leave the backlight level set too high, the backlight illumination looks pretty even; there are some minor patches of extra brightness in the corners of the picture, but they're hardly distracting, even during very dark scenes.

Motion is quite clear and smooth even without Motion Flow in play, and, in fact, many people will probably prefer to leave it off, as it can cause a few processing side-effects. But as noted earlier, it's got the flexibility to be adjusted to suit your tastes, so don't be afraid to tinker with it at least.

Colours are explosively rich and punchy in 2D mode, too, yet their extreme saturations don't prevent the TV from delivering subtle shifts in tone or looking natural.

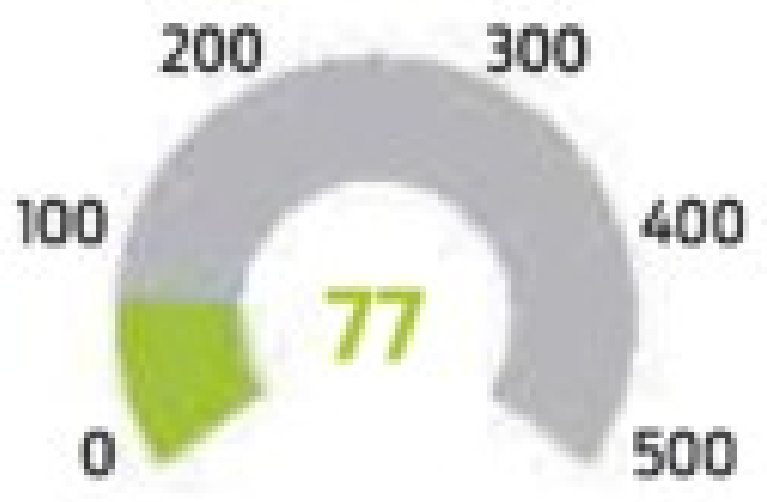
Audio asset

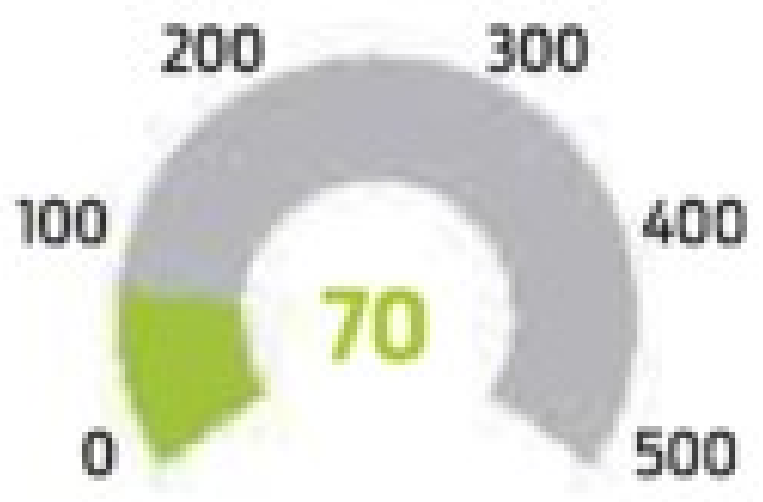
Accompanying the D7000's excellent pictures is some surprisingly decent audio. Samsung's slim, edge LED TVs have traditionally struggled to sound credible, but the set's audio is clean, reasonably dynamic and quite punchy, though more bass extension wouldn't have gone amiss.

Overall, the D7000 is another hugely desirable TV from Samsung. There's room for improvement where 3D crosstalk is concerned, but it's still a very good 3D performer, while its 2D pictures are outstanding. All wrapped up in a to-die-for body ●

→ Tech Labs

Power consumption: Watts





White screen: With our 100IRE full white display, power consumption is less than you would expect for a set of this size

Test footage: With movie footage and full volume sound the consumption drops to 70W. Definitely an eco-friendly screen

TV Contrast: Ratio

Picture: An impressive post-calibration figure of 231,900:1, with a good luminance of 67.7fl.

Colour temp: Kelvin

Presets: In addition to the range of picture modes of which Movie is the closest, there are four CT presets, and a manual RGB mode which delivers a perfect 6,500K.
Standard: 8,600K
Dynamic: 10,200K
Natural: 8,400K
Movie: 6,300K
Standard Mode with CT set to 'Warm2': 6,600K

HCC VERDICT

Samsung UE40D7000
£1,400 Approx

Highs: Gorgeous, space-saving design; good 3D and excellent 2D picture quality

Lows: Slight crosstalk noise with bright 3D footage

Performance: 1 2 3 4 **5**
Design: 1 2 3 4 **5**
Features: 1 2 3 4 **5**

Overall: 1 2 3 4 **5**

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FESTIVAL

SATURDAY 23 & SUNDAY 24 JULY 2011

MAIN STAGE

SATURDAY

JUDAS PRIEST
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SLASH
Featuring Myles Kennedy

THIN LIZZY

QUEENSRŸCHE
UK FESTIVAL EXCLUSIVE

RIVAL SONS **SKIN** **MICHAEL MONROE**

SUNDAY

DREAM THEATER
UK FESTIVAL EXCLUSIVE

BLACK COUNTRY COMMUNION
UK FESTIVAL EXCLUSIVE

THUNDER
UK FESTIVAL EXCLUSIVE

MICHAEL SCHENKER

SAINT JUDE

PROG STAGE

JOHN LEES'
BARCLAY JAMES HARVEST

NEAL MORSE

ANATHEMA • CARAVAN • AMPLIFIER
VON HERTZEN BROTHERS

JETHRO TULL
UK EXCLUSIVE

SPOCK'S BEARD

MOSTLY AUTUMN • CURVED AIR
THE ENID • PALLAS

HAMMER STAGE

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GRAND MAGUS • SYLOSIS
RAVENS CREED • TRIGGERFINGER
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Super subs

A serious cinema room requires a serious subwoofer – not necessarily the diminutive cube you picked up in your 5.1 package. **Adam Rayner** unleashes hell with three of the craziest low-frequency high-enders

VELODYNE
DD-18+
£5,800 Approx
Follow up to the legendary DD18, Velodyne's single-driver woofer marries brute force with cutting-edge RoomEQ and connectivity

PARADIGM
SUB1
£5,000 Approx
Baby brother to the SUB2, this £5K style icon builds a small herd of 8in drivers onto its enormous 1,700W amp, promising poise and power

BOWERS & WILKINS
DB1
£3,250 Approx
Sexy, bipolar subwoofer built to partner B&W's flagship 800 Series Diamond speakers

ORIGINAL IMAGE: ©ISTOCKPHOTO.COM/PGIAM

Stereomags.com

Diamond standard

Bowers & Wilkins' new flagship sub is a triumph of audio engineering

Bowers & Wilkins 800 Diamond Series loudspeakers deserve to be partnered with an equally high-end woofer. Which is why the Brit brand designed the DB1 – a 2 x 12in driver behemoth fed by a 1,000W amp.

The enclosure is sealed and sits upon a square plinth that houses the DSP system. If you turn the woofer over, you find you can disconnect some bolts, swivel the base through 90° and thus change the alignment of the woofer drivers with your room (you might want to go along a wall), while still keeping the display of the subwoofer showing. Neat.

B&W supplies a lovely set of bits with the DB1. For a start, there's a soundcard dongle for a laptop, then a microphone on a gooseneck and wires to connect them. Owners should use this. I can attest that, while the sub sounds fabulous un-tuned, (I tried it that way for a while) what happens when it has run the test tones is wonderful.

Fully room-applied equalisation, with response down as low as a snake's belly, results in tight, taut control and astonishing hi-fi-like experiences from a good source.

Chopin on fire

As well as the movie selections that I played with, one of the most amazing and revelatory demos in a very long career was a Chopin piano piece in stereo, recorded in a church. Through a pair of stand-mounted speakers it was pleasant, tinkly, very posh, but with no bass at all.

Then, the woofer was fired up. Suddenly, just like the time I was sat in front of the Steinway Model D £150,000 speakers, I could feel the acoustic space the piano was recorded in. There was no bass, no lows at all, but there were large chunks of the acoustic signature of the church. Sub-sonic swells and lumps of soundwaves bounced around with huge wavelengths that all added up to the awesome, sepulchral acoustics of a house of God. For a fat reviewer who thought he knew it all, it was quite revelatory.

Bowers & Wilkins

Double trouble: The DB1 uses a bipolar arrangement of 12in drivers

With other material, the sheer totality of grip and accuracy that B&W's flagship woofer could muster, and the effortless melodic tracking of bass in music, was impressive – the DB1 is capable of acts of incredible delicacy and grace, like an elephant picking up a single blade of grass with the tippy-ends of its trunk. But like the elephant, it can make the ground quake, and with the action movies I screened it could lift you out of your seat.

Engineering excellence

It might seem absurd to some people that a high-end subwoofer should cost so much and be so very powerful, but this is still a triumph of compact engineering. The same cone area, or rather more, than one of the mighty-sized 15in or even 18in woofers of this world has been used, with a very big, yet not megalomaniacal, amplifier.

And with its shiny cabinet and a dozen super-strong Neodymium magnets holding the neat plastic and cloth grilles over the twin drivers, it looks very sexy indeed.

B&W's DB1 is fit to partner the finest of speakers, and (with a sorry nod to Eclipse TD) may just be the finest, most accurate subwoofer in the world.

Hexagonal sibling sub

Baby brother it may be, but Paradigm's SUB1 still packs plenty of punch

Paradigm's SUB1 is the smaller, more affordable version of the *HCC* award-winning SUB2, although at £5,000 (rather than £7,250) it's still not pocket money.

The SUB2 is so large and heavy that it became simpler for me to travel down to the Bristol Hi-FI show to test it – after all, it did pack six 10in drivers into its cabinet and 4,500W of amplification. This time, I made sure I got to play with the more manageable SUB1 in my listening room.

With 'just' 8in drivers, albeit a small herd of them on a monstrously efficient and high power Ultra-Class-D™ amplifier of nearly 2,000W, the SUB1 is a cute clone of the Hexagonal Hell that its big brother embodies.

It's still heavier than an average man-eating catfish (49.4kg, or 109lbs in old money) but is so very compact, it can take up no more room than some perfectly ordinary woofers of no more than one tenth the cost. So what's so special?

Well, for one, those drivers are ridiculously clever – huge magnets, wide Aluminium voice coils, fully four layers deep, wound around magical Nomex formers. Meanwhile, the top surrounds are like a non-kink shower hose, or goose-neck microphone stand, so won't distort or collapse, due to their ribs.

Perfect bass

Mr. Paradigm UK helped with the install in my room, armed with the brand's PBK (Perfect Bass Kit) which SUB1 owners get as part of the package. We waited while a +/-1dB calibrated microphone listened to the room at ear level and fed data to a laptop. The resulting performance was amazing. It was as if an audio expert with a real-time analyzer and some serious time had hand-tuned the entire room. I revelled in that oh-so-hard-to-describe joy of bass that is seamless with the rest. Tight, snug and enveloping, with all the cinematic edge and tension, but without any woofly room overlay.

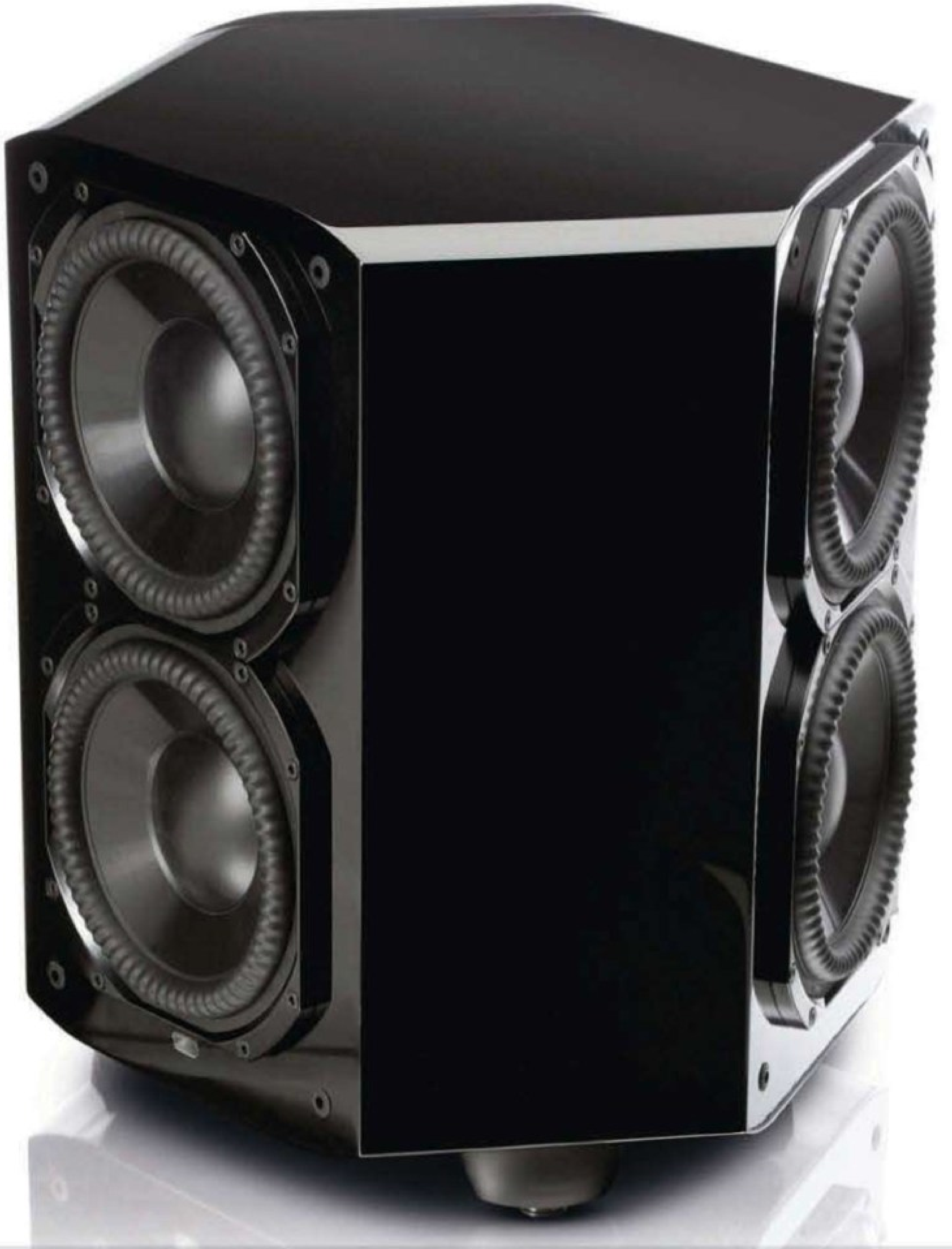
The final part of the *Bourne* trilogy – well made but a bit tedious with all the flashbacks, if you ask me – was the chosen Blu-ray. There's a lot of use of deep throbs in the LFE feed to create tension as well as the *de rigueur* use of explosions and gunplay. It was exqusite.

The SUB1 proved equally delicious with music. It offered polite aplomb and a lovely underpinning effect to tighten up the rest of a stereo sound stage – in this case supplied by a Canton Vento system on test at the time. And all while holding its own melodic grip.

I did hear the 8in drivers struggle a little to get that flat bass response curve, to cope with the huge 50Hz to 80Hz suckout in my room at high levels. Thus, I doubt the value of using the PBK1 on lesser woofers.

But that's the most minor of gripes and more the fault of my own room than the SUB1. In fact, I have no hesitation in recommending Paradigm's product to anyone hunting for a top-flight woofer. Especially if they like a bit of style to go with their substance.

>



Hex appeal: Paradigm's SUB1 has a living-room friendly hexagonal design

War machine

The pinnacle of the revamped DD range is built for the biggest rooms

OK, who of you reading this are hooligans? Admit it. I do. You might well be a grownup hooligan, who likes seriously clean, tight bass to make the whole cinematic experience more visceral. But a hooligan nonetheless.

And there's nothing wrong with that. In a home cinema system, we get music and explosions, too. Even planet-splitting earthquakes and Tsunami – and in *No Country for Old Men*, true-live recordings of distant thunder that will challenge any mere loudspeaker to reproduce it correctly.

That's why sometimes you need a product like Velodyne's DD-18+. The very biggest and latest piece of technology-dripping active subwoofer from the US brand. The DD-18+ is not just a bit of an animal – it's an entire, sweating Brahma bull, peeing on your carpet and breaking your furniture. This product created effects and happenings in my humble home, the like of which have only ever happened inside cars.

It's a simple issue of SPL, or Sound Pressure Level. This is measured in decibels, but that's a dry explanation – SPL is different at different frequencies. High SPL of treble will hurt and deafen. Huge SPL of low frequencies will excite you, make you fearful, help your digestion, risk incontinence and break things in your house.

When I cranked the DD18+, bits fell off the balsa wood banana tree we bought in Barbados on honeymoon, and when running a 5.1 music CD through it, the deck was facing the cone and jumped like it was a car unit struggling in a 150dB+ sound pressure environment.

So yes, this is the most absurdly loud, air-shifting window-pumper I have yet had in my home. And I've had a few...

Big bass: Whip the grille off the DD-18+ to get a peek at its massive 18in driver

Handsome hulk

The DD-18+ looks as good as an 18in sub can. It has such a handsome cabinet that I had fearful feelings regarding the finish. Mine was described as ebony (I hope it's a small 'e', as proper Ebony isn't exactly a sustainable source). The grille is a serious affair on legs, with a simple cloth over a beefy frame. This is mounted on flanges, as the 18in driver has a massive to-and-fro capability and needs the space.

Hysterically, the DD-18+, I am assured, meets the 0.5W standby environmental requirement for electronics. Yet when you switch it on and it goes boom, you will be making 3,000W. The continuous, all-the-time-all-day rating is 1,250W, which is around five times more power than is considered 'reasonable' by any sane person.

It's tech-savvy too. Buyers get a whole manual about the software. As well as state-of the art auto equalisation and a damn fine set of kit to do it with, the system allows you to have your own taste as well, so it's not as paternalistic as many auto-EQ systems. It may be that you like it badder-than-life. If so, you can choose how it plays.

And it plays ever so well. Yes, it does have a huge cone with a six-layer-deep coil on its butt, but the magnet that grips it is insanely powerful, and can stop and change direction blisteringly fast, thus avoiding what's called 'overhang'. This is when a cone keeps pushing air around after the amp has stopped sending it the note.

My favourite demo was from *Sherlock Holmes* on BD, as Sherlock experiments in ballistics in his Baker Street lodgings. From a quiet soundtrack, the sudden slam was jaw-dropping.

The DD18+ drops devilishly low and never ever seems to run out of power to spank you and your world to a happy, quivering pulp. Brilliant.

Final standings

So why have a monster, state-of-the art subwoofer, at all? Well, for one thing, a bigger room needs a bigger woofer, and better, more realistic bass requires much more power than medium-but-crisp low-end. What we have here are three of the best efforts in existence, with three very different approaches.

Bowers & Wilkins' DB1 was conveniently named after decibels, despite its working title and aim at being the 'Dog's Bollocks'. It is a total paragon of referential super hi-fi. It can create a cathedral of space around two bookshelf speakers, without you even hearing the 'bass' at all. In that regard it is the machine of choice for utter audiophiles, and a perfect partner to the brand's 800 Series Diamond speakers.

Paradigm's SUB1 has more power compacted into it than most can believe. But it's very nature of being a six-subwoofer-driver product means that, despite its own very clever auto-EQ system, it isn't as tight and 'detailed' and phase coherent as the B&W. It simply muscles its way out of any room issues.

And as for Velodyne's DD18+, this is an astonishing sub for truly big rooms and those who want that single-driver sharpness and lack of phase-arguments.

Each uses a self-EQ system. In the past, such systems have been a pain in the neck to use (Infinity's RABOS was absurdly laborious by comparison), but which are mature and very clever in all these units. The result is a dramatic improvement upon 'tuning', with the whole system's output benefiting. You get all the bass, including the midbass that carries the detail and edges of sounds, without room-boom taking over.

Tricky decision

In my house, with my own cash, I would plump for the more affordable B&W DB1, but if I had a 12-seater cinema, I'd be auditioning the Velodyne DD18+. If I had to keep the volume under control but still wanted big and linear bass, the SUB1 would fit the bill, although, it must be said it's against stiff competition here ■

1ST

HOME CINEMA Choice
★★★★★
BEST BUY

HCC VERDICT

Bowers & Wilkins DB1
£3,250 Approx

Highs: Deliciously effortless and unobtrusive, yet mighty and profound – an iron fist in a velvet glove!

Lows: Doesn't go as low as its rivals here

Performance: 1 2 3 4 [✓ 5]
Design: 1 2 3 4 [✓ 5]
Features: 1 2 3 [✓ 4] 5

Overall: 1 2 3 4 [✓ 5]

→ Specifications

Drive Unit: 1 x 12in Rohacell cones on long throw motors/suspensions
Enclosure: Bipolar sealed
Frequency Response: 17Hz-145Hz +/-3dB, so in-room potency to 10Hz
On-Board Power: 1,000W RMS
Dimensions: 460(w) x 490(h) x 410(d)mm
Weight: 44Kg
Connections: Mono LFE line in on phono and balanced XLR, as well as stereo line in on phono

1ST

HOME CINEMA Choice
★★★★★
BEST BUY

HCC VERDICT

Velodyne DD18+
£5,800 Approx

Highs: Single-driver high-end taut quality, with all the muscle and terror of a huge multi-driver effort; flexible EQ system

Lows: Massive enclosure; high-end price tag

Performance: 1 2 3 4 [✓ 5]
Design: 1 2 3 [✓ 4] 5
Features: 1 2 3 4 [✓ 5]

Overall: 1 2 3 4 [✓ 5]

→ Specifications

Drive Unit: 1 x 18in forward-firing Fibreglass/Rohacell laminate cone, with six-layer, 75mm custom-wound voice coil and near-40lb magnet
Enclosure: Sealed – available in black gloss ebony, satin cherry or walnut
Frequency Response: 8.8Hz-300Hz
On-Board Power: 1,250W RMS, 3,000W peak of Class D amplification
Dimensions: 530(w) x 580(h) x 650(d)mm
Weight: 64.5Kg
Connections: Mono LFE line in on phono and balanced XLR as well as stereo line in on phono and XLR. Also miniature XLR for Microphone input and mini USB socket. Ethernet for software updates and control. Microphone, mic stand, 34-button remote control, software CD-ROM, and AutoEQ+ tone burst CD included

3RD

HOME CINEMA Choice
★★★★
BEST BUY

HCC VERDICT

Paradigm SUB1
£5,000 Approx

Highs: Fabulous, near-limitless power and depth; *objet d'art* styling; supplied PBK system

Lows: As the units are just 8-inches, it's possible to overwork them in a tough-to-correct room

Performance: 1 2 3 [✓ 4] 5
Design: 1 2 3 4 [✓ 5]
Features: 1 2 3 4 [✓ 5]

Overall: 1 2 3 [✓ 4] 5

→ Specifications

Drive Unit: 6 x 8in mineral-filled copolymer polypropylene cones with 4-layer 1.5in diameter Aluminium voice coils on Nomex formers
Enclosure: Vibration Cancelling Design Architecture hexagonal sealed
Frequency Response: From -3dB @ 10Hz to crossover point (35Hz-150Hz)
On-Board Power: Ultra-Class-D™ 1,700W RMS
Dimensions: 505(w) x 516(h) x 455(d)mm
Weight: 49.4Kg
Connections: Stereo line in on phono and mono balanced XLR as well as mini USB connection and 3.5mm 12V sensor trigger socket; includes Perfect Bass Kit PBK1 microphone and hardware

Finishing touches

Adrian Justins trawls the shelves for those must-have home cinema extras

CRYSTAL ACOUSTICS
PICOHD5.1
1080p Video
Multichannel Audio

ROTH AUDIO BAR 1

Approx £330

Sound specialist Roth Audio has taken the plunge into the soundbar arena with its Bar 1. The slimline chassis houses 8 x 1.6in mid-range drivers and 2x 0.7in aluminium dome tweeters, and is partnered with a wireless 260W sub.

www.rothaudio.co.uk

HCC VERDICT

An elegant audio solution for flatscreen TVs

RADIOPAQ DUO HEADPHONES

Approx £20

Value for money is the name of the game here with these striking British-designed cans from Radiopaq. With 40mm drivers that deliver 20Hz-20kHz frequency response, the Duo is ideal for DJing and geared up for use with portable media players and full-size computers. The flat-folding headphones have a gold-plated 3.5mm stereo audio jack, 1.25m cable, soft padded headband and soft 15mm-deep ear cushions. Colour options are black, grey, purple, green and orange (pictured).

www.radiopaq.com

HCC VERDICT

These look just as cool on the train as in the nightclub

Radiopaq
duo

CRYSTAL ACOUSTICS PICOHD5.1

Approx £50

This non-networkable media adaptor for an HDMI-equipped TV is a pocket-sized device that delivers HD video up to 1080p and offers compatibility with most common audio and video file formats including DivX, WMV, and Flac. The PicoHD5.1 works with NAS drives, USB memory sticks and hard drives as well as SD, SDHC, and MMC media cards. It can convert Dolby Digital and DTS surround mixes to stereo, or output them over coaxial.

www.crystalaudiovideo.com

HCC VERDICT

Multichannel HDMI is the missing icing on the cake

VIVITEK QUMI

Approx £500

This portable projector from Vivitek is designed to deliver mega-screen movies in HD anywhere with access to a power point (and a suitable wall). Weighing just 617g and about as large as an average paperback book, the Qumi has a decent specification including 1280 x 800 (WXGA) resolution with 720p support, a projection distance of 1-3m, 1.55:1 throw ratio and 300 lumens brightness at the maximum screen size of 90in. It can even show 3D footage, if you don't mind your movies a bit on the dim side, and sports a 30,000-hour LED lamp.

Connections include a mini-HDMI, Universal I/O (24-pin connector for VGA/ component video), a mini-jack audio output, plus Micro SD and USB slots that offer compatibility with most common movie files, JPEGs, PDFs and Excel documents. You even get a set of adaptors for every type of media player.

www.vivitek.co.uk

HCC VERDICT

A viable solution for instant big-screen thrills wherever you are

SAMSON METEOR MIC

Approx £100

There are USB microphones aplenty, but few have the looks of this retro-styled model from Samson. Featuring a 1in condenser and chrome-plated all-metal body, the model's fold-back leg design provides versatile positioning for any recording application from speech to acoustic guitars.

No drivers are required as the mic can be directly connected to any computer and is compatible with most digital audio software including Skype, iChat and GarageBand.

www.samsontech.com

HCC VERDICT

Charming retro design and easy to use

BELKIN SCREENCAST

Approx £100

Belkin's solution for streaming digitally downloaded entertainment from one machine to the other is ScreenCast, which is connected permanently to your TV or amp via HDMI and accepts content from any wi-fi compatible laptop. The use of dual band (2.4 and 5 GHz) wireless signals allows movies, to be streamed at 1920 x 1080p with Dolby Digital 5.1 surround sound. Streaming a movie to the ScreenCast doesn't preclude the use of the laptop for other functions either, such as surfing the net. It also makes it possible to project the internet onto your TV screen.

www.belkin.com/uk

HCC VERDICT

A handy solution for streaming catch-up services like iPlayer

Clips...

Small items that will make a big difference to your system

Acer HN274H

Approx £500

This LED-lit monitor is the world's first 16:9 full HD 3D computer screen. Sold with a set of NVIDIA 3D specs, the screen has HDMI dual-link, as well as a 120Hz refresh rate and 2ms response time. Acer's eColor and Adaptive Contrast Management technologies are on hand to optimise picture quality, while low power consumption, touch-sensitive controls and an intricate vent design add even more appeal.
www.acer.co.uk

Lite-On eHBU212

Approx £150

This external Blu-ray writer has a USB 3.0 connection that enables write speeds of up to 12x normal playback. It comes bundled with Cyberlink Blu-ray Suite software, LightScribe Technology for creating attractive disc labels and SMART Burn, which automatically adjusts the writing strategy to provide the best burn quality. An ideal accessory for HD archivists.
www.liteonit.eu

REAL Cable HD-E-NANO

Approx £25

HIgh-quality HDMI cable can often be a bit chunky, but the HD-E-NANO has a compact cylindrical cable, giving flexibility where discreet cabling is required. Using de-oxygenized copper conductors (OFC), double shielding and gold contact connectors with silver soldering, the Nano HDMI cable with Ethernet and ARC supports 3D and 4K x 2K video.
www.real-cable.com

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YOUR NEXT CAR?
THE TRUTH ABOUT ELECTRIC CARS
THE LIMITS OF BATTERY POWER
DUST TO RUST
We reveal the carbon lifecycle of new cars
DRIVEN AT LAST!
Why Vauxhall's plug-in Ampera is the future of motoring
WWW.ICARMAGAZINE.CO.UK
LIVING WITH THE LEAF
Car 2.0 guru Robert Llewellyn and Nissan's revolutionary electric car
DRIVEN
LEXUS CT 200h: Hybrid hatch reinvents luxury
MERCEDES SLK 250 CGI: Ridiculously efficient roadster
HONDA JAZZ HYBRID: UK's cheapest petrol-electric car

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PLAYBACK

→Software highlights **BATTLE: LOS ANGELES** Aliens wage war in Hollywood **PAUL** Hit the road with Pegg and Frost **DRIVE ANGRY** Nic Cage crashes into the third dimension **ONCE UPON A TIME IN THE WEST** Charles Bronson and Henry Fonda get a hi-def makeover **ICE COLD IN ALEX** Get the beers in for this North African desert trek **AND MUCH MORE!**

Rooster booster

True Grit → Paramount
All-region BD/R2 DVD

Find out if the Coen Brothers' remake gets the villain. Read our verdict of the Blu-ray on page 89

HCC Ratings key

Beyond the Law	1 2 3 4 **5**
Down by Law	1 2 3 **4** 5
Murphy's Law	1 2 **3** 4 5
Outside the Law	1 **2** 3 4 5
Monster-in-Law	**1** 2 3 4 5

The *Blue Peter* assignments were becoming increasingly dangerous

Alien foes target La-La land

What's grey and green and shakes all over? Handheld cams in an urban battleground

BATTLE: LOS ANGELES

Battle: Los Angeles desperately wants to be the *Hurt Locker* of alien invasion movies. Unsurprisingly, it isn't. Despite all of the attempts at *cinema vérité*-style naturalism on show here (shaky-cams and crash zooms abound) there's none of the intelligence of Kathryn Bigelow's film. Instead what we have is a traditional gung-ho, action flick that feels more like *Call of Duty: Modern Warfare – The Movie*, only replacing fictional Middle Easterners with equally fictional extraterrestrial invaders. That's not to *Battle: Los Angeles* isn't fun. Behind all of the lazy characterisation and obvious plot lines lie 116 mins of enjoyable action and spectacle – just the thing then for those who have got bored of repeatedly spinning *ID4* on Blu-ray.

Chris Jenkins on picture: In striving for gritty verisimilitude, *Battle: Los Angeles* opts for a fairly muted palette, full of dull greys and greens, while its locations are often packed of hazy smoke and there's a fine layer of grain inherent in the image. All of which would seem to add up to a less than impressive hi-def experience. But, the disc's AVC 2.40:1 1080p encode pulls it back with some incredibly fine detailing that gives every scene a sense of depth and every object a realistic texture, which pulls you into the war zone. And when primary colours do make an appearance (such as the orange and yellow fireballs accompanying explosions) they're so richly saturated and contrast so greatly with the rest of the palette, they seem to jump off the screen.

Mark Craven on sound: It's hardly surprising that *Battle: Los Angeles* arrives on Blu-ray with a stellar DTS-HD Master Audio 5.1 mix. After all, here's a film that throws you into the middle of an urban battleground, one filled with gunfire and bomb-blasts. The surround speakers are constantly engaged and deliver flawless positional effects and panning, while the LFE-channel packs a mighty wallop with every explosion. Superb stuff.

Anton van Beek on extras: In place of a traditional audio commentary, *Battle: Los Angeles* comes to Blu-ray with a *Command Control* mode that uses picture-in-picture technology to serve up interviews, behind-the-scenes footage, storyboards and links to 10 BD-exclusive *Battle Point* featurettes (each between two and four minutes), which take a closer look at the making of a particular scene or a specific aspect of the production. These *Battle Points* can also be viewed in isolation from the *Command Control* sub-menu. The disc also features *MovieIQ* functionality, a BD-Live link and seven further featurettes (*Behind the Battle*, *Directing the Battle*, *Aliens in L.A.*, *Preparing for Battle*, *Boot Camp*, *Creating L.A. in LA* and *The Freeway Battle*), exploring the visual FX used to bring the aliens to life, re-creating the streets of L.A. in Louisiana, the military training undertaken by the cast and more. All of the extra features are presented in 1080p.

HCC VERDICT

Battle: Los Angeles → Sony Pictures → All-region BD £25 Approx

We say: An enjoyable piece of sci-fi that delivers the goods in a home cinema environment

Picture: 1 2 3 [✓ 4] 5
Sound: 1 2 3 4 [✓ 5]
Extras: 1 2 [✓ 3] 4 5
Movie: 1 2 [✓ 3] 4 5
Overall: 1 2 [✓ 3] 4 5

127 Hours: Double Play

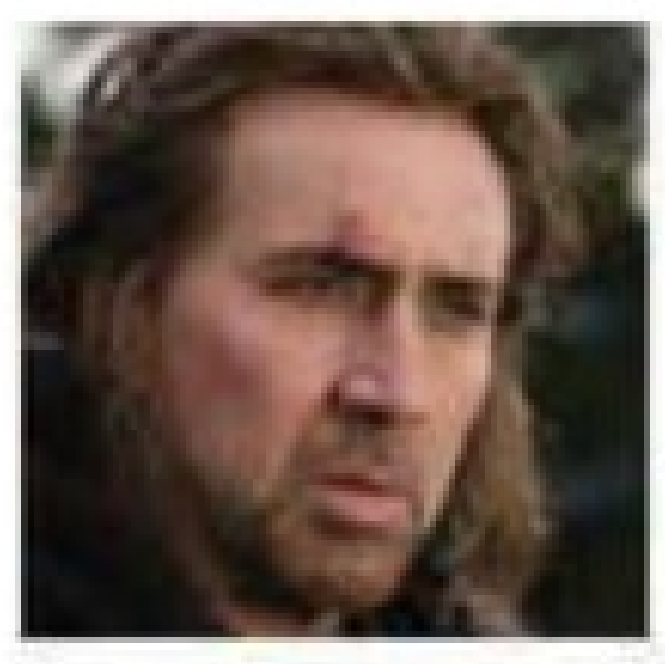
Pathé → Region B BD/R2 DVD £25 Approx

Danny Boyle's latest hinges on James Franco's mesmerising performance as trapped climber, Aron Ralston, as well as the audience's foreknowledge of the horror he must eventually face to free himself. The result is a gripping piece of 'inaction' cinema that's also a great Blu-ray platter, thanks to a vibrant and detailed AVC 1.85:1 1080p encode and piercing DTS-HD MA 5.1. The set features a commentary, seven deleted scenes, featurettes, a completely unrelated short film and a DVD copy of the movie ***AvB***

1 2 3 **4** 5

Season of the Witch

Momentum Pictures → Region B BD → £25 Approx



There are clearly two Nic Cages working in Hollywood right now. This is why for every *Bad Lieutenant* we get a *Wicker Man*. Although this medieval chiller isn't quite as bad as the latter, it is both bloodless and terribly earnest for a flick about a small group of knights escorting a suspected witch to trial – and it completely falls apart in the CG-drenched finale. Momentum's single-layer, hi-def platter offers a VC-1 1.85:1 1080p encode that brings out plenty of detail in even the darkest scenes, plus a potent DTS-HD MA 5.1 mix. Extras are perfunctory. ***AvB***

1 2 **3** 4 5

The Way Back

Entertainment One → Region B BD → £25 Approx

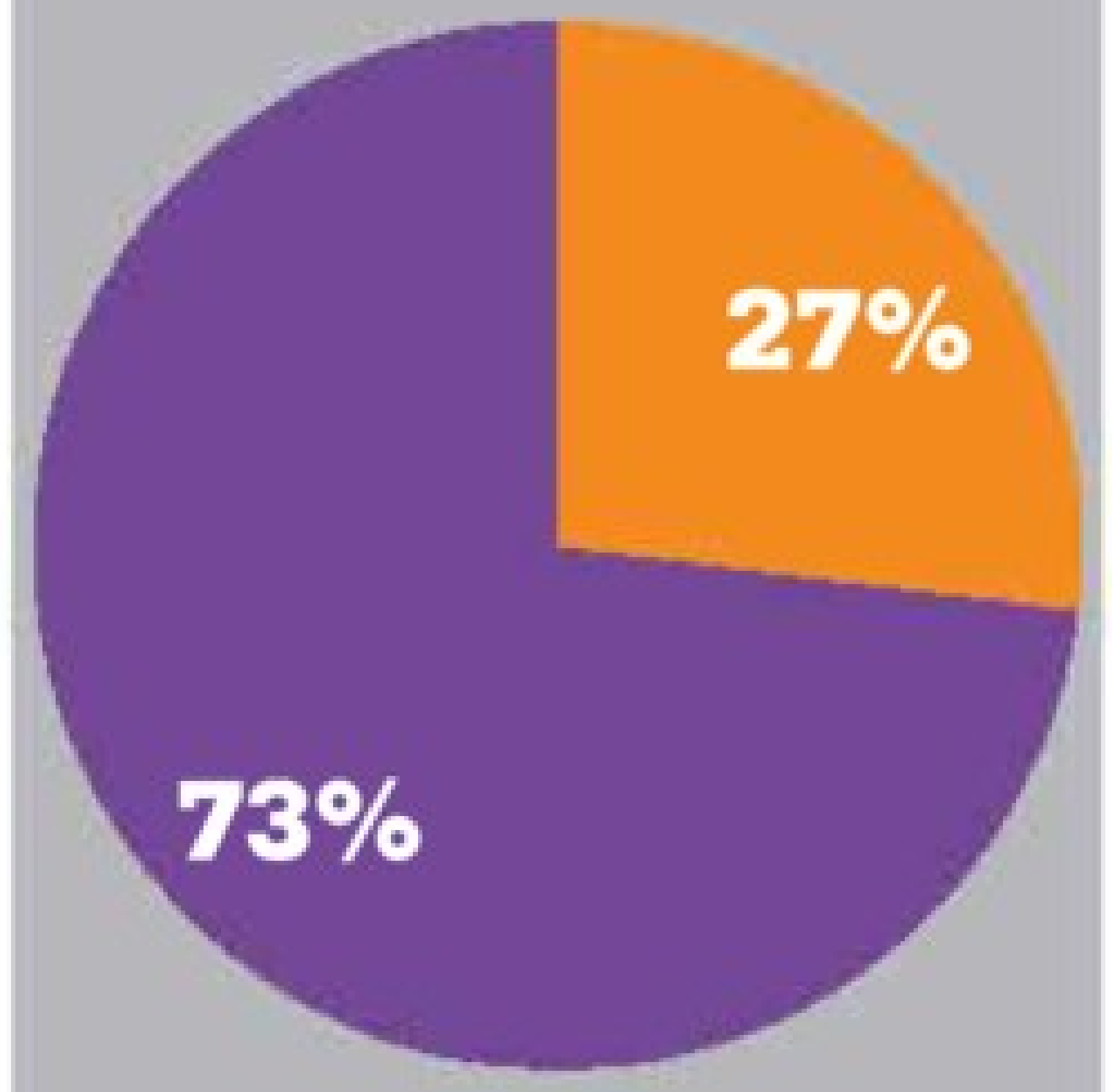
Jim Sturgess, Colin Farrell and Ed Harris head up the cast of Peter Weir's epic true story about a group of escapees from a Russian gulag who walked over 4,000 miles to freedom. While not Weir's best work, the movie is handsomely mounted and full of excellent performances. The Blu-ray's AVC 2.40:1 1080p encode is initially hamstrung by the taxing conditions, but in the second half delivers some beautiful hi-def imagery. Better still is the brilliantly immersive DTS-HD MA 5.1 soundtrack. Eighty minutes of interviews and a half-hour *Making of...* are the core extras. ***MC***

1 2 **3** 4 5

We asked you...

Have you ever made use of a Digital Copy provided free with a DVD or Blu-ray?

🟧 Yes! 27%
🟪 No! 73%



Results of poll from www.homecinemachoice.com

Cold comfort

Neeson chases the MacGuffin

DOUBLE PLAY
UNKNOWN

Wot no tip?: *St Trinians'* extra lands role of tough Berlinerin

Unknown may look like another *Taken*-style action-fest for Liam Neeson (and it was definitely advertised at such), but apart from a quick car chase and a final punch up, it's actually the kind of conspiracy thriller that both Alfred Hitchcock and Roman Polanski have dabbled with over the years. That's not to say that *Unknown* is in any way on a par with *The Lady Vanishes* or *Frantic*, but while it lasts it's an entertaining ride that offers up some solid work from its leads, stylish direction from Jaume Collet-Serra, and enough twists and turns to keep you guessing right up to the final revelations.

Chris Jenkins: Taking its cues from the snow-covered streets of Berlin, *Unknown* opts for a cold visual style that emphasises blues, greens and deep blacks. This not only gives the film a distinctive aesthetic, but it ensures that sudden bursts of bold colour (the orange of the paramedics' jackets in Chapter 4 and the deep blue and red lighting in Chapter 7's nightclub) really zing. The AVC 2.40:1 1080p encode handles all of this with aplomb, as it does with grain retention throughout the film. The only question mark revolves around fine detailing, which is never as sharp as you'd expect outside of closeups – but this appears to be a result of picture tweaks in post production, rather than an issue with the encode itself.

Mark Craven: Even though *Unknown* doesn't offer much in the way of action, it still features a very satisfying DTS-HD MA 5.1 mix. Dialogue is crystal clear, and the ambience for its many locations is smartly evoked through considered atmospheric effects. That said, it also knows how to push the boat out during the film's more dynamic scenes, making cracking use of the full soundstage and subwoofer during the car crash in Chapter 1, the chase in Chapter 6 and the explosive finale in Chapter 11.

Anton van Beek: Fans of *Unknown* will undoubtedly be disappointed by the meagre extras gathered together for this release. There's a trio of sub-five-minute featurettes that give a cursory look behind-the-scenes and (despite the short running times) even manage to repeat each other on a few occasions. Also included are six interviews with the cast and crew, plus the trailer and a DVD copy of the film.

HCC VERDICT

Unknown: Double Play → Optimum Region B BD → £25 Approx

We say: Neeson's latest thriller is worth a rent

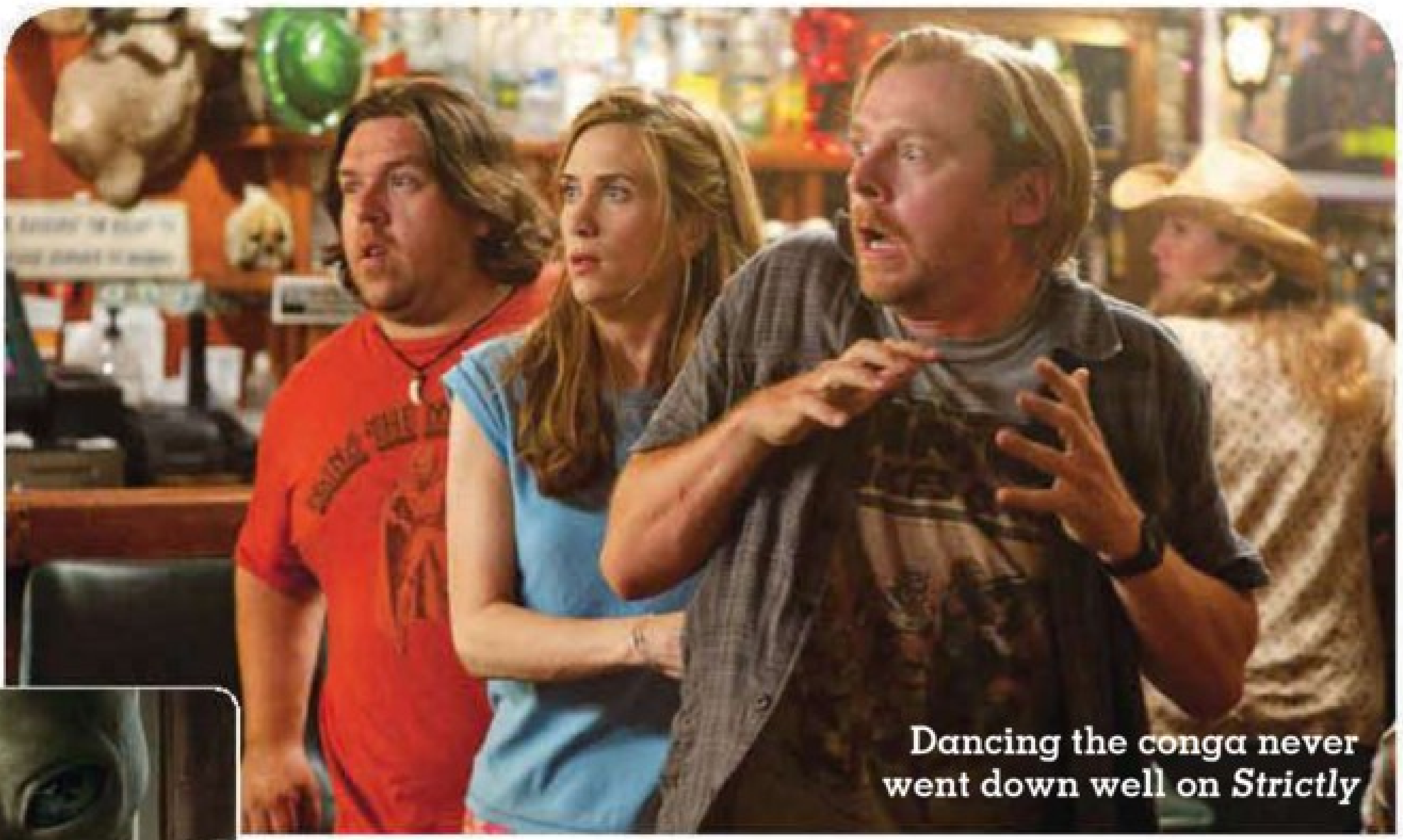
Picture: 1 2 3 **4** 5
Sound: 1 2 3 4 **5**
Extras: 1 **2** 3 4 5
Movie: 1 2 **3** 4 5

Overall: 1 2 **3** 4 5

StoreKags.com

It's pay-back time for ET on the road...

When two Brits in a Winnebago set off for some UFO spotting in the US, they're not alone



Dancing the conga never went down well on *Strictly*

Paul sees *Hot Fuzz* co-stars Simon Pegg and Nick Frost making the trip across the Atlantic as two geeky Brits on a road trip around America's UFO hotspots. And of course they bump into a real-life extraterrestrial (voiced by Seth Rogen). In addition to a bigger budget and a roster of familiar Hollywood comics that includes Jason Bateman, Kristen Wiig and Bill Hader, *Paul* is also the first project the duo have worked on without the guiding hand of writer/director Edgar Wright. And it shows. Helmed by *Superbad* director Greg Mottola, *Paul* is a much broader film in comedic terms, favouring pot jokes and swearing to the deftly drawn characters that were the highlight of previous Pegg-Frost pairings. It's a perfectly amiable, if occasionally flabby, Hollywood comedy that dishes up plenty of giggles.

Chris Jenkins: A warm colour palette, deep black levels and strong detailing all add up a pleasingly natural AVC 2.40:1 1080p Blu-ray encode – one that looks extremely close to my memories of the digital print I saw projected theatrically. Technically the encode does a good job of avoiding the traditional pitfalls of many of Universal's titles (noise reduction and edge enhancement), so the only real issue surrounds the loss of shadow detail in darker scenes.

Mark Craven: *Paul* doesn't feature the most dynamic DTS-HD Master Audio 5.1 mix (hardly surprising as it's essentially a character-based comedy), but it does a good job with atmospheric effects and offers plenty of range and fidelity. It also knows when to crank up the audio action to give a full speaker system a work out. Dial up Chapter 15 for a hefty dose of bass as a house explodes, or Chapter 17 for the impressive steering effects of a helicopter.

Anton van Beek: In addition to the bonus DVD and Digital Copy of the film, the Blu-ray disc in this release comes packed with extras. You can choose from the 104min theatrical or 109min extended cut of the film; My Scenes functions; an 11min blooper reel; a two-part 40min documentary entitled *Between the Lightning Strikes: The Making of Paul*; eight further behind-the-scenes featurettes; an FX showcase; three trailers; five US TV spots, four UK TV spots; and an audio commentary (theatrical version) by Mottola, Pegg, Frost, Bill Hader and producer Nira Park.

HCC VERDICT

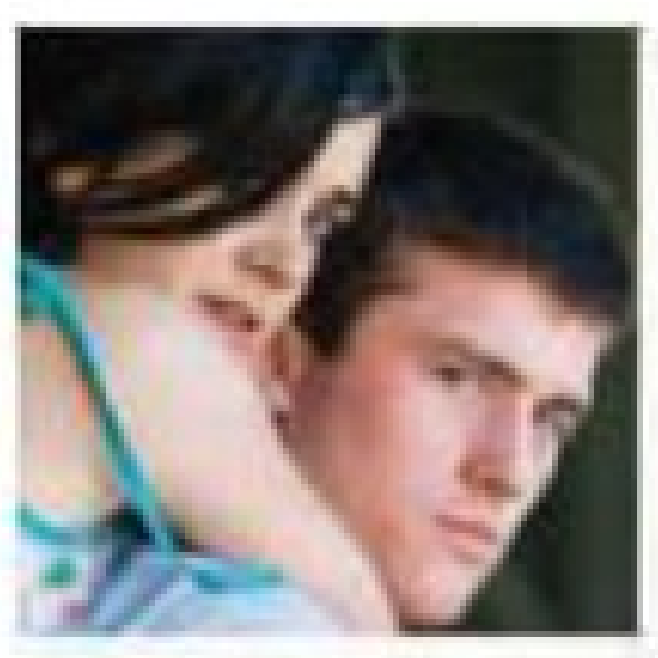
Paul: Triple Play → Universal Pictures → All-region BD
£25 Approx

We say: A stellar Blu-ray release for this very average sci-fi comedy

Picture: 1 2 3 **4** 5
Sound: 1 2 3 **4** 5
Extras: 1 2 3 4 **5**
Movie: 1 2 **3** 4 5
Overall: 1 2 3 **4** 5

Animal Kingdom

Optimum → Region B BD
£20 Approx



Cited by Quentin Tarantino as his third favourite film of last year, this award-winning crime drama should put Australian cinema firmly back on the map. A tour-de-force of intimate storytelling and astonishing performances, *Animal Kingdom* is a remarkable film – one that Optimum has given deservedly rich treatment on Blu-ray. The AVC 2.40:1 1080p encode is incredibly natural, if not exactly eye-popping, while the DTS-HD MA 5.1 mix is rich in atmosphere. Superb extras include two commentaries, a 70min *Making of...*, nine deleted scenes and the trailer. ***AvB***

1 2 3 **4** 5

Brighton Rock: Double Play

Optimum → Region B BD/R2 DVD → £20 Approx

No matter how hard everybody involved tries, this new screen adaptation of Graham Greene's novel simply can't compete with John Boulting's superb 1947 version. It's by no means bad, but the only place the film really outdoes the original as a piece of home cinema is with a suitably drab, yet pleasingly detailed AVC 2.40:1 1080p and lively DTS-HD MA 5.1 mix. It also comes packed with extras, the best of which is Kenneth Hume's shag-tastic 1964 musical short *Mods & Rockers!* This rare short is a blast for fans of '60s British cinema. ***AvB***

1 2 **3** 4 5

The Killing: Season One

Arrow Video → Region R2 DVD
£39 Approx

This 2007 Danish series quickly made a name for itself when it was screened in the UK earlier this year. Catching the wave of popularity for Scandi crime stories spurred on by the likes of *Wallander* and Stieg Larsson's trilogy, this gripping series follows the investigation into the murder of a teenage girl – one that appears to be tied to Copenhagen's political structure. This five-disc set is devoid of extras, but serves up suitably bleak anamorphic 1.78:1 transfers for all 20 episodes. Sadly, the audio is limited to just DD2.0 surround though. ***MC***

1 2 3 **4** 5

The Twilight Zone: Season Two

Shock Entertainment → Region B BD → £50 Approx

The second season of Rod Serling's legendary anthology series lands on Blu-ray and is almost as good as its predecessor. Sadly, six of the episodes were shot on video as a cost-cutting exercise and look pretty horrible, but the other 23 AVC 1.33:1 1080p encodes in this four-disc set are just spectacular. Again, there's the choice of restored or original LPCM mono tracks for each episode, and the copious extras include commentaries; isolated scores; radio dramas and a bonus episode of the earlier anthology show *Suspense*. ***AvB***

1 2 3 4 **5**

The leg waxing treatment just hadn't worked

How the west was re-won

Coens cook up a whole heap of grits in the hunt for the murderer of a girl's father

TRIPLE PLAY
TRUE GRIT

True Grit represents another notch on the belt for filmmaking brothers Joel and Ethan Coen, while marking their return to the pinnacle of contemporary American filmmakers after the rather sleight *Burn After Reading* and *A Serious Man*.

Based on the novel by Charles Portis (previously adapted for the screen as a John Wayne vehicle in 1969), this remarkable western eschews the epic scope favoured by so many of the genre's filmmakers for a more intimate, affecting and often witty tale of courage, humanity and vengeance. Newcomer Hailee Steinfeld plays 14-year-old Mattie Ross, a young girl whose father was recently gunned down. After setting her father's affairs in order, she hires one-eyed US Marshall 'Rooster' Cogburn (Jeff Bridges) to hunt down the man responsible, but only on the condition that she rides with him.

Chris Jenkins: Right from its opening shot, Paramount's Blu-ray treatment of *True Grit* wows you with the intricacy of its detailing, the lifelike nature of its textures, the depth and solidity of its blacks and its impeccably rendered colour palette. On top of that, the hi-def image also looks and feels incredibly cinema-like, thanks to an accurately rendered light grain structure evident in every shot. In other words, the studio has delivered a faultless AVC 2.40:1 1080p encode for the Coen Brothers' latest masterpiece, one that immediately stands out as a contender for one of the best you'll see all year.

Mark Craven: While it's not always flashy, *True Grit*'s DTS-HD Master Audio 5.1 mix is every bit as accomplished as the film's video presentation. Ambient effects ensure that the soundstage always feels three-dimensional and perfectly balanced, while gunshots and other dynamic material boast potency, steering and sharpness that puts many action movie soundtracks to shame. Finishing the audio package is the richness of the dialogue (right down to the mumbled depth's of Jeff Bridges' slurred speech) and the tonal perfection of Carter Burwell's score.

Anton van Beek: The Coen Brothers have never been the sort of filmmakers to pontificate endlessly about their work. As such, fans have traditionally had to settle for enjoyable, if unspectacular, bonus features accompanying their films on disc.

True Grit is no different, foregoing any kind of audio commentary or picture-in-picture mode for the theatrical trailer and a collection of seven self-explanatory behind-the-scenes featurettes – *Mattie's True Grit* (5mins), *From Bustles to Buckskin: Dressing for the 1980s* (8mins), *Colts, Winchesters & Remingtons: The Guns of a Post-Civil War Western* (5mins), *Re-creating Fort Smith* (11mins), *The Cast* (5mins), *Charles Portis: The Greatest Writer You've Never Heard of...* (31mins) and *The Cinematography of True Grit* (3mins). This Triple Play edition also includes a DVD and Digital Copy of the film itself.

HCC VERDICT

True Grit: Triple Play → All-region BD/ R2 DVD → £25 Approx

We say: This is one western you'll definitely want to rustle up for your Blu-ray collection

Picture: 1 2 3 4 **5**
Sound: 1 2 3 4 **5**
Extras: 1 2 **3** 4 5
Movie: 1 2 3 4 **5**
Overall: 1 2 3 4 **5** >

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Angry drivel revs up

Nic Cage gets behind the wheel in this bullet-spewing action fest

Drive Angry is a very, very silly film. But it's one that fully embraces its inherent stupidity and is probably the closest we've come to a modern version of grindhouse cinema. It's far more in keeping with examples of that specific film ghetto than anything Tarantino or Rodriguez produced for their 2007 double-feature. Does that mean *Drive Angry* is a better film than either *Death Proof* or *Planet Terror*? Not really, as director Patrick '*My Bloody Valentine*' Lussier isn't that accomplished as a filmmaker. That said, he knows how to cobble together a gory, action-packed tale of supernatural revenge and human sacrifice. And if that's not enough, he's also able get a decent performance out of Nic Cage, something better filmmakers have tried and failed to achieve countless times in the past.

Chris Jenkins: Lionsgate's *Drive Angry* Blu-ray offers both 2D AVC 1.78:1 1080p and 3D MVC 1.78:1 1080p playback options, both of which hold up a lot better than the film's script or CG effects. As per Lussier's previous *My Bloody Valentine*, *Drive Angry* throws all sorts of stuff out of the screen at the viewer, and it actually looks pretty good (even if the effects responsible aren't even the slightest bit convincing in and of themselves). Colour reproduction and detailing is strong in both presentations, with the 2D option unsurprisingly looking that little bit brighter, clearer and sharper.

Mark Craven: Cars and guns. Aside from the odd badass one-liner or bit of gratuitous T&A, that's pretty much the sum total of what *Drive Angry* has to offer. As such it's hardly surprising that this Blu-ray release serves up an extremely potent DTS-HD MA 5.1 soundtrack. Whether it's room-shaking engine revving or bullets flying all around you, *Drive Angry* coasts along on a tidal wave of high-impact audio that will push your speaker system to its very limits.

Anton van Beek: *Drive Angry* comes to Blu-ray with a set of extras every bit as average as the film they support. Patrick Lussier and writer Todd Farmer provide an audio commentary, and also pop up to impart even more behind-the-scenes trivia on the *Access Drive Angry* picture-in-picture viewing mode.

The disc also features a 9min compilation (with scoreboard) of the film's kills, entitled *Milton's Mayhem*, an 18min *Making of...* featurette and a pair of deleted scenes with optional commentary. The disc also comes bundled with a DVD copy of the film.

HCC VERDICT

Drive Angry: Double Play
→ Lionsgate → Region B BD
£25 Approx

We say: Blu-ray B-movie boasts strong AV credentials and solid 3D effects

Picture: 1 2 3 **4** 5
Sound: 1 2 3 4 **5**
Extras: 1 2 **3** 4 5
Movie: 1 2 **3** 4 5

Overall: 1 2 **3** 4 5

'When I tap the windscreen, prepare for an emergency stop...'

Fair Game

Entertainment One → Region B BD → £25 Approx

Director Doug Liman (*The Bourne Identity*) turns his attention to the true story of the scandal that surrounded the outing of covert CIA operative Valerie Plame Wilson's identity to the press. It's a fascinating tale, with some excellent performances from leads Naomi Watts and Sean Penn, but it's ultimately far too rushed as a film to be truly satisfying. As for the disc itself, the AVC 2.40:1 1080p encode and DTS-HD MA 5.1 mix are both pleasingly robust. There's only one extra, but it's a good one, a commentary by the real Valerie Plame Wilson and Joe Wilson. ***AvB***

1 2 **3** 4 5

Evangelion 2.22: You Can (Not) Advance

Manga → Region B BD
£25 Approx

This cinematic 'rebuild' of the classic anime series gets into its stride with this second feature. Even diehard fans will find plenty to surprise them as the filmmakers shake up the familiar stories with brand new twists and characters. The surfeit of action and ideas overcomes the slightly episodic nature of the material. As per the first film, it looks and sounds incredible in HD thanks to a flawless AVC 1.78:1 1080p encode and bombastic Dolby True HD 6.1 Japanese and English soundtracks. Even the so-so extras can't take the shine off this disc. ***AvB***

1 2 3 4 **5**

Gnomeo & Juliet 3D

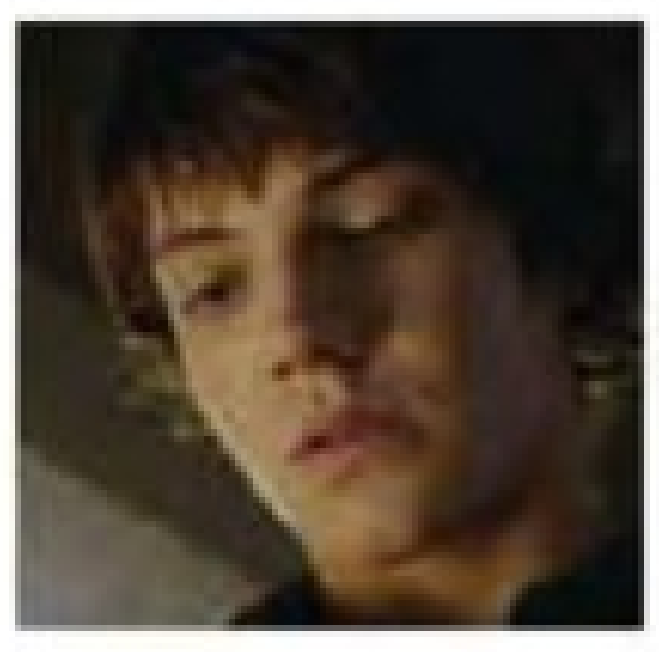
Entertainment One → Region B BD → £25 Approx

It's hard not to believe that this film only exists because someone thought the title was a clever pun and tried to create a story around it. Elements of The Bard's famous tragedy are mixed with action scenes, pop culture gags and music from Elton John, to produce a lively mess of bright colours and loud noises that will keep kids entertained. The MVC 1.78:1 1080p encode looks vibrant and solid in both 2D and 3D modes, and it's joined by a thrilling DTS-HD MA 5.1 mix. Dismal extras take the form of two alternate endings, two short interviews, a music video and the trailer. ***AvB***

1 2 **3** 4 5

The Hole 3D

Entertainment One → Region B BD → £25 Approx



After the flawed *Looney Tunes: Back in Action*, there's no denying that Joe Dante is back on form with his latest teen chiller – a cracking little flick about three kids who discover a mysterious trapdoor in a basement, which unleashes their innermost fears. This new stereoscopic BD release allows Dante's terrific use of 3D to shine thanks to its sharp MVC 1.78:1 1080p encode (it can also be played back in 2D). The DTS-HD MA 5.1 mix is every bit as three-dimensional as the visuals. It's just a shame the meagre extras – interviews and two short featurettes – don't do the film justice. ***AvB***

1 2 3 **4** 5

Ice Cold in Alex

Optimum → Region B BD
£20 Approx

J Lee Thompson's 1958 classic has been digitally restored for its Blu-ray debut, and the results are easily on a par with the kind of treatment cinephiles have come to expect from the likes of Eureka and Criterion. The AVC 1.66:1 1080p encode still throws up some very minor wear and tear, but overall it's a remarkably fresh and detailed black and white image that retains an authentic grain throughout. The LPCM dual-mono soundtrack handles the source material with ease, while extras include an interview with actress Sylvia Syms and more. ***AvB***

1 2 3 **4** 5

Rififi

Arrow Video → Region BD/R2 DVD
→ £25 Approx

As well as being a pretty much perfect film, Jules Dassin's classic French crime drama makes for a mostly flawless hi-def experience in this double-play release from Arrow Video. While the label has come in for some stick about its use of noise reduction on some of its 'cult' titles, Arrow's treatment of *Rififi* on Blu-ray is simply marvellous, serving up a beautifully crisp and sharp AVC 1.33:1 1080p encode and crystal clear LPCM mono soundtrack. Extras are few: a couple of interviews with Dassin; an intro to the film, the trailer and a collectible booklet – but are well worth investigating. ***AvB***

1 2 3 4 **5**

Le Mans

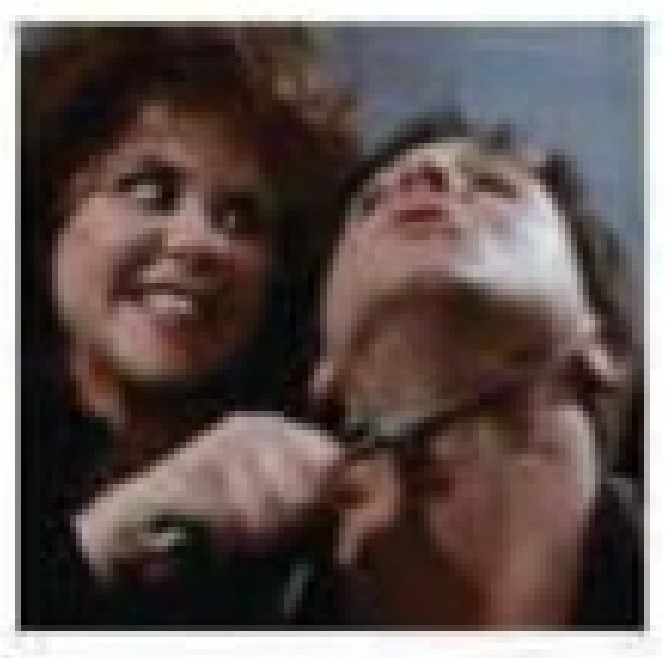
Paramount → All-region BD
£20 Approx

A terrific ride for petrolheads and Steve McQueen fans alike, *Le Mans* remains one of the greatest motorsport movies ever made. This is a film about the world's top endurance race, so it's only natural that the dramatics are provided on the track, not off it, and in that regard it's a huge success. Paramount deserves a hearty congratulations for the restoration job it performed with this 40-year-old flick, serving up a wonderfully authentic VC-1 2.40:1 1080p encode and surprisingly convincing new DTS-HD MA 7.1 soundtrack. Extras are limited to a 24min *Making of...* and the trailer. ***MC***

1 2 3 **4** 5

Savage Streets

Arrow Video → R0 DVD
£13 Approx



Former *The Exorcist* child star, Linda Blair, is all grown up and out for revenge in this slice of prime '80s cinematic sleaze. Finally available uncut on these shores, *Savage Streets* is a treat for lovers of schlock cinema, and Arrow Video has certainly done the film proud with its surprisingly vibrant anamorphic 1.85:1 transfer. And despite the bargain price tag, it hasn't skimped on the extras either, serving up a trio of audio commentaries; interviews with producer John Strong and actors Linda Blair, Linnea Quigley and Robert Dryer; the trailer; a collectible booklet, poster and double-sided sleeve art. ***AvB***

1 2 3 **4** 5

Grand opera of the Wild West legend

The snake eyes and the dust still work their magic in Sergio Leone's epic western

After the shed blew down, no one knew quite what to do

Once Upon a Time in the West isn't just one of the greatest westerns – it's one of the greatest films ever made. Working with the backing of a major American studio, and scripted by two young Italian film critics who would eventually become respected filmmakers in their own right (Dario Argento and Bernardo Bertolucci), Leone's film felt like the summation of the many themes he had begun exploring in his *Dollars...* Trilogy. What initially appears to be a simple tale of revenge soon transforms into an operatic contemplation of the myth and legend of the Wild West with a cast to die for, spectacular images you could frame and hang in a gallery and Ennio Morricone's greatest score. Cinema doesn't get much better than this.

Chris Jenkins: This hi-def upgrade of Leone's masterpiece isn't perfect, but it's still far better than any previous home release. The good news is that – unlike last year's *The Good, the Bad and the Ugly* Blu-ray – the film hasn't been subjected to an overdose of noise reduction. Indeed, there's plenty of grain and detail present, as well as deep blacks and rich colours. Unfortunately, the film grain isn't resolved quite as well as you might hope (giving the image a slightly blotchy look at times) and noise is evident in a handful of shots.

Mark Craven: Considering how large a part sound plays in the film, Paramount should be applauded for the effort its put into the audio on this Blu-ray. While the original mix is only presented as lossy Dolby Digital dual-mono, it's great to see a studio remember to include the original mix in any form at all. The disc also delivers a surprisingly potent and convincing DTS-HD MA 5.1 remix that tastefully broadens the scope of the audio to match the film's epic vistas.

Anton van Beek: There are no new supplementary features on this Blu-ray release, but Paramount has at least gone to the effort of importing the goodies from the 2003 *Special Collector's Edition* DVD. These include: an audio commentary (featuring input from filmmakers John Carpenter, John Milius and Alex Cox, film historians Sir Christopher Frayling and Dr Sheldon Hall, co-writer Bernardo Bertolucci and actress Claudia Cardinale); three featurettes about the making of the film; a short piece about the railroad's impact on the 'wild' West; *Then & Now* location comparisons; a stills gallery and a trailer in HD.

But thanks to seamless branching ,the Blu-ray serves up two versions – the 165min 'Theatrical' release and a slightly extended, 166min 'Restored' one, production of which was overseen by The Film Foundation and The Rome Film Festival.

HCC VERDICT

Once Upon a Time in the West
Paramount → All-region BD
(US Import)
£14 Approx (www.movietyme.com)

We say: A spectacular bargain-priced HD outing

Picture: 1 2 3 **4** 5
Sound: 1 2 3 **4** 5
Extras: 1 2 3 **4** 5
Movie: 1 2 3 4 **5**
Overall: 1 2 3 **4** 5

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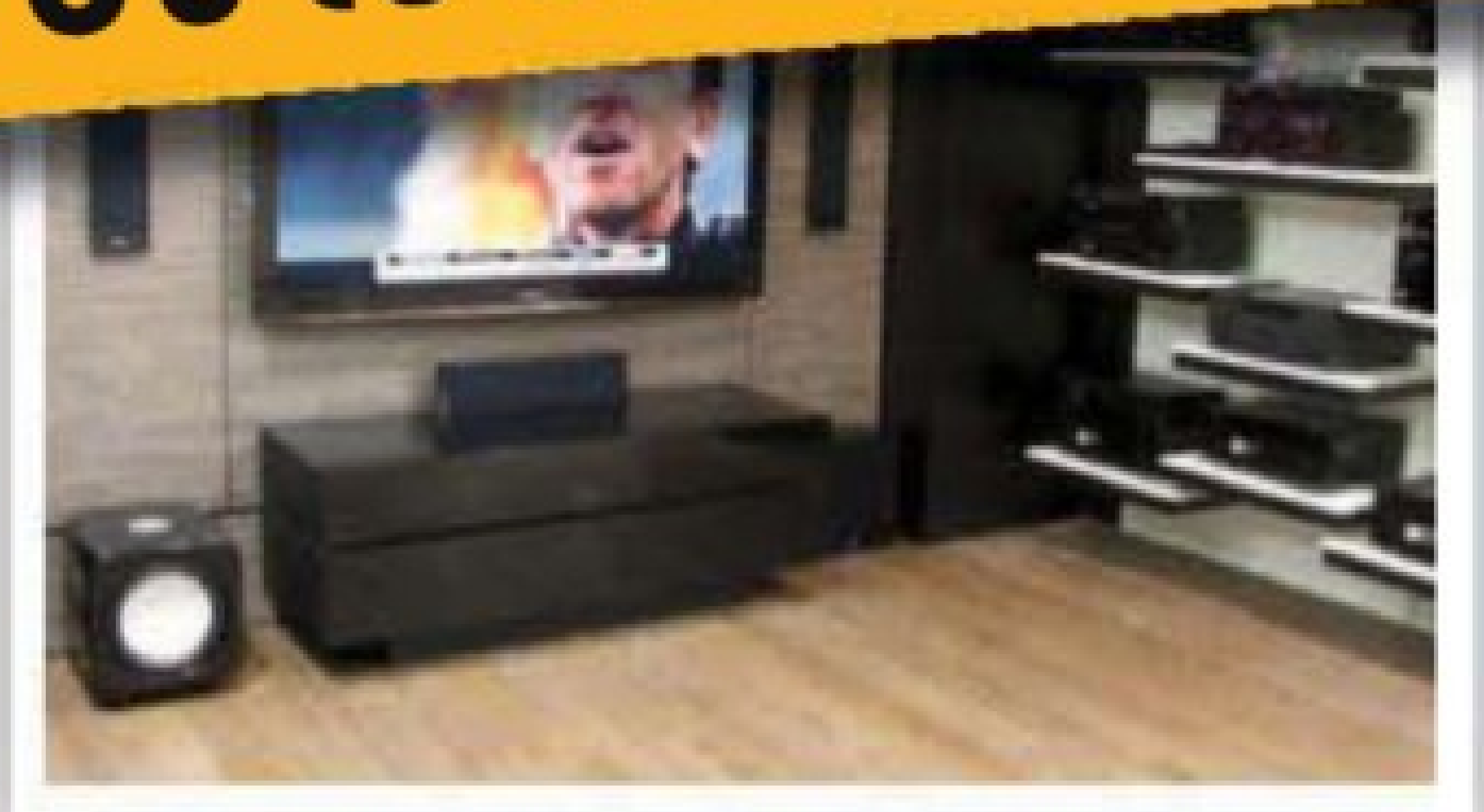

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When connected to a suitable network, your VIERA Connect or Samsung Smart TV can be transformed into a central hub for watching the latest YouTube videos, catching up with TV shows using BBC iPlayer along with gaming, social networking and much more!

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SAMSUNG 3D LED TV
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NEW
PANASONIC VIERA
3D PLASMA TV
VT30 & GT30
3D LED TV
DT30
VIERA Connect

PANASONIC DMP-BDT310 **3D BLU-RAY PLAYER**

This new top-of-the-range 3D player offers everything you could possibly hope for in a Blu-ray player.

ALSO AVAILABLE: DMP-BDT110 & DMP-BDT210

SONY BDP-S580 **3D BLU-RAY PLAYER**

New 3D Blu-ray disc player which also supports multimedia content from the Internet or from a computer.

ALSO AVAILABLE: SONY BDP-S380 & BDP-S780

DENON AVR-1912 **AV RECEIVER**

This new AV receiver features built-in support for Apple's AirPlay, six HDMI inputs, DLNA compatibility and several streaming media services, such as Rhapsody and Pandora.

ONKYO TX-NR609 **AV RECEIVER**

Get the most out of your movies, music and gaming with Onkyo's intuitive and easy to use AV receivers.

ALSO AVAILABLE: ONKYO TX-NR809

PIONEER VSX-921 **AV RECEIVER**

The VSX-921 meets all the popular AV receiver needs: 7.1 surround sound, a digital connection for your iPod plus Apple AirPlay for wirelessly streaming music from any compatible device.

ARCAM FMJ AVR400 **AV RECEIVER**

Using technology developed from the acclaimed AVR600 receiver and AV888 processor, the new AVR400 has been developed as a more affordable way to access Arcam's legendary sound quality.

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SALE

PANASONIC DMR-BS880 **BLU-RAY/HDD RECORDER**
Enjoy outstanding record and playback quality with this 500GB Freesat HD Blu-ray / HDD recorder.

PIONEER BDP-LX54 **3D BLU-RAY PLAYER**
With its advanced features and specification, this 3D player ensures the highest quality playback of Blu-ray discs and DVDs.

YAMAHA YSP-4100 • YSP-5100 **SOUNDBAR**
Improve your TV sound with a digital sound projector. Features include HD decoding, 40 beam drivers and digital amplification.

DENON AVR-2311 **AV RECEIVER**
This versatile and uncompromising AV receiver meets the needs of both home cinema enthusiasts and beginners alike.

PIONEER SC-LX83 **AV RECEIVER**
This feature packed AV receiver won 'best receiver £1500+' in the What Hi-Fi awards 2010.

KEF KHT 7005 • KHT 8005 **AV SPEAKERS**
Stunning 5.1 surround sound from only four slim speakers for your flat screen TV.

CANTON
MOVIE 125 MX
SPEAKER PACKAGE
This impressively capable package comprises four identical satellite speakers, a larger centre speaker and an active subwoofer.

BOWERS & WILKINS MT-25 **SPEAKER PACKAGE**
This award-winning 5.1 speaker system combines B&W's M1 satellite speakers with the ASW608 subwoofer.

PANORAMA **SOUNDBAR**
Panorama adds a whole new dimension to home entertainment, bringing truly immersive surround sound to your TV from a single, discreet speaker.

B&W MT-25

BOSTON SOUNDWARE XS 5.1
SPEAKER PACKAGE
This award-winning small, but sturdy, speaker package gives a cohesive, balanced, full-bodied sound.

KEF AUDIO

T SERIES
Enjoy serious hi-fi sound with KEF's ultra-slim T Series speakers. Featuring a new low profile woofer and vented tweeter for clear midrange and sparkling detail.

Q SERIES
The new Q series features an all new Uni-Q array with advanced bass technologies.

JVC DLA-X3 D-ILA **3D PROJECTOR**
Experience 3D movies, games and sport at home. The new DLA-X3 D-ILA projector will bring another dimension to your viewing enjoyment.

MONITOR AUDIO
For superior sound quality anywhere in your home, Monitor Audio has a speaker solution.

RADIUS R90 HD10

BRONZE BX2 5.1

APEX

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Feedback

Got an axe to grind? Want to comment on current technology? Need to share? **HCC** is here to help

My deck is dying

I own a Pioneer BDP-51FD Blu-ray player which is having trouble reading some discs. It takes ages to load, then tells you it can't read it and it is an unknown disc. DVDs are okay, though. I have done the latest firmware update. Should I get the hardware checked? And, if so, where could I take it?

Steve Logins, via email

If you've installed the latest firmware and it still hasn't resolved the problem, then, yes, get the hardware checked. Pioneer's website will tell you your nearest Authorised Service Centre.

Fix me: Pioneer's website will help you find an authorised service centre

Let's get negative

Regarding the interview with Sony Pictures' Grover Crisp ('Remaster Class', *HCC* #195), I think Mr Crisp hit the nail on the head re: grain and digital noise reduction. If the worst offenders (Universal and Paramount, in my opinion) actually bothered to properly remaster their movies from original negatives, then over-zealous grain removal would simply not be needed. It's not like it's a one-shot deal either; new archival film elements can be derived from 4K (or even

Star Letter

Give me a high-end 2D plasma!

Hi, I'm looking to upgrade my existing 40in Sony LCD TV to a larger plasma – around 50in – and am having trouble choosing what set to buy. My main issue is that I have no interest in 3D whatsoever, but nearly every brand I look at offers this and apparently does so to put the price up! Also, I'm not fussed about 'Smart TV' either – I just want an excellent screen that lets me watch Blu-rays, DVDs and TV.

From what I can gather, all the sets from the likes of Samsung, Panasonic and LG with the highest-quality pictures are all 3D, too. What options do I have if I want flagship picture quality, but don't want to pay for a feature I'm not going to use?

Sean Wilson, via email

Firstly, congratulations on your decision to go from a 40in TV to something larger – bigger is always better in our opinion!

As for recommending you a set, you don't say how much you are thinking of spending – but hopefully we can point you in the right direction.

There is definitely some truth in what you say about premium picture quality coming with 3D and Smart TV features attached, but one plasma screen we have had in our test labs still cut the AV mustard without offering bells and whistles – Panasonic's G30 plasma.

This £1,000 TV is available in a 50in guise and is the 2D version of the GT30 series, which is second tier in Panasonic's plasma range behind only the flagship VT30. Indeed, the G30 shares much of the same picture processing as the top-flight TVs – including THX and ISF modes, 600Hz sub-field drive, Intelligent Frame Creation Pro and 'Infinite Black' contrast. And, yes, you save around £300 by opting out of 3D – but you'll get Panasonic's Viera Connect Smart TV platform.

Looking beyond Panasonic to the Korean plasma brands, we can't find any 2011 Samsung that isn't 3D without it having some picture caveats – the Series 4 51in D450 uses a 1365 x 768 panel, for instance. You have to go back to last year's models (check out the PS50C6500) to find 2D sets with high-end AV performance, although that might help you save even more money.

As for LG, the 50PV350T offers near identical specs to the 3D 50PZ250T, give or take an HDMI input, and can be snaffled for as little as £550. However, it lacks the THX certification of some of the more

Blu-ray Disc
DOUBLE PLAY
CONTAINS BLU-RAY + DVD
NICOLAS CAGE
DRIVE ANGRY
ONE HELL OF A RIDE
★★★★
★★★★
★★★★
"RIOTOUS, RIP-ROARING THRILLS AND ACTION"
18

Sign up to HCC online!

Don't be an Alan Smithee! Joining *Home Cinema Choice*'s online community is free, fast and fun

On the home page of **www.homecinemachoice.com**, scroll down the right-hand side of the page until you see the Login box. Click the *Join Here* button, choose a username and then create your profile. You can upload an image to represent you online and use your signature to tell fellow AV fans about your own system automatically every time you post. Joining the big AV debate online has never been easier!

higher) scans, so they're ensuring the long-term survival of the movie.
Anonymous, via the website

We agree wholeheartedly, but obviously there's a cost involved in going back to the original negatives – so don't expect studios to put the same care and attention into all their titles, as much as videophiles would like them to.

And, if you don't like what a studio has done with a title, tell them. So many people made their frustrations known to Paramount and Universal about the original Blu-ray release of *Gladiator* that the movie was re-issued with an improved transfer. And an exchange program introduced for dissatisfied customers.

advanced, and 3D-toting, PZ models and we haven't tested it yet. Maybe a roundup of non-3D TVs is in order?

Lastly, are you sure you're not interested in 3D? The new format shows no sign of going away, and we've found there are some genuinely worthwhile 3D Blu-rays (*Resident Evil: Afterlife*, *Avatar*, *Tangled*...) and broadcasts (golf, *Flying Monsters 3D*) out there. If you buy a new 2DTV and change your mind in 12 months time, you may well regret your decision...

Winner: Star Letter writer Sean wins a copy of *Drive Angry: Double Play* on Blu-ray courtesy of Lionsgate Home Entertainement. It's available to buy from July 4, priced at £25 approx.

3D is better at home

I went to see my first 3D cinema movie last week, *Thor 3D*. I was very disappointed with the overall 3D effect, but the movie was excellent.

When I got home, I mentioned it to my son-in-law and he told me he felt the same about the last 3D movie he'd seen, *Tangled*.

Having my own 3D front projection system in my cinema room, I put *Tangled* on to get his view on which was best – home or cinema.

After a few minutes I was greeted with 'look at that' and 'amazing'. He informed me that the cinema wasn't a patch on my system and it was like watching an entirely different movie.

My only conclusion concerns the glasses: passive in the cinema and active in my cinema room. To me (and I'm biased) active is the way to go.

If LG and other manufacturers are going down the passive route we could have another format war, this time passive vs active.

The only reason I can see for this is the price of the glasses. But at what loss? 720p instead of 1080p? Contrast? We need to be told pitfalls.

I hope I'm wrong, but one thing for sure, I won't be going to any 3D movies in the future.
Peter Brennan, via email

It's very interesting that your son-in-law preferred your home system's 3D performance to that of his local cinema – especially your view that it's due to the glasses technology. Certainly, a domestic passive 3DTV will result in a drop in resolution, but the same shouldn't apply to a commercial cinema. Maybe it was incessant sound of strangers munching popcorn that put him off...

As for the brewing passive vs active format war, this is something that we'll be covering in depth in our next issue.

Oh, and we recommend you give your local cinema another chance before you stop going to watch 3D altogether – *Thor 3D* was converted to the format retrospectively, so it hardly represents the peak of what the format can achieve.

I hate Hulk!

Am I bored of Superhero movies? (*HCC* online poll, May 27). Well, I'm not bored with *Batman*, *Iron Man* or *X-Men*, but please God, save me from another *Hulk* [pictured], *Daredevil*, *Elektra* or *Catwoman*!
Anonymous, via the website

So what will you do when Joss Whedon's *The Avengers* (featuring both Iron Man and Hulk) comes out next year?

Blu-ray reviews

I've been getting your magazine for years now and it was instrumental in upgrading my home system. I look forward to reading your views on the latest platters on Blu-ray, since I rely on them to build my collection.

I went to your site hoping to find past reviews, but your archive doesn't appear to cover this. Is there something I've missed on your website? If not, would you consider de-archiving all your reviews?
John Sage, via email

Write to Letters, Home Cinema Choice, Future Publishing,
2 Balcombe Street, London
NW1 6NW, or email us at
hcc@futurenet.co.uk
Due to the volume of letters we receive we cannot guarantee to print/answer them all.

We've been reviewing Blu-rays in *Home Cinema Choice* since the first platters appeared in 2006 (who remembers *Into The Blue*?), but only began putting reviews online in 2008 when our new website launched. As such, there will be titles that aren't on there.

You've also got us bang to rights in that not all the software reviews that appear in the mag make it across to the website (although most of the larger reviews appear as a 'Weekend Watch'), but this is something we are looking to rectify right now!

Xbox = hot and noisy

If Microsoft wants to extol the virtues of the Xbox as an entertainment hub (HCC online, June 3) I suggest they 're-position the Xbox' inside a soundproof refrigerator. Half an hour in a small room with an Xbox is enough to cook and deafen most people.

We have one in a small upstairs room, and have to leave the door and windows open to keep cool, and use headphones to avoid the overwhelming fan noise.
Anonymous, via the website

Ah, but which is noisier – the Xbox 360 or the PlayStation 3?

Hulk – no one had ever just sat him down for a chat

How we test

Home Cinema Choice's hardware reviews combine the subjective opinion of our seasoned reviewers with hard technical data. **Chris Jenkins** explains how the *HCC* Tech Labs work

HCC hardware reviews combine the opinions of our experienced reviewers with objective technical data from our test lab. Here's how we do it...

HCC's gear reviews have a long tradition of combining the subjective opinions of experienced reviewers with hard scientific data from our test labs. That way, you can be sure that there's no danger of favouritism or prejudice creeping into the reviews – when we combine the reviewer's opinions with the test data, we can be sure that the results we present to you, the readers, are honest, reliable and accurate.

For over 20 years, we have been developing testing methods for every AV technology from CRT TV and VCRs to the latest 3D flatscreens, multichannel amplifiers and media players. Our testers have been trained by the ISF, Tektronix, Home Acoustic Alliance and other industry bodies, and we use industry-standard testing equipment so we can be confident our results make sense in terms of manufacturers' claims.

Our Tech Labs set-up consists of two main facilities.

The Viewing Room

Used mainly for testing TVs, projectors and speakers, the Viewing Room is designed to reproduce the conditions found in a typical mid-range home cinema installation. Created by award-winning custom installers Pounds (www.poundstv.co.uk), it's completely light-proofed for testing of TVs and projectors, is partially soundproofed using Acoustiblok (www.acoustiblok.com), and has been acoustically treated and tuned using custom absorbers and diffusers by the experts at RPG (www.rpg-europe.co.uk).

The room has a resident Crystal Acoustics TX-T2 7.2 speaker system, Onkyo TX-NR5008 receiver and a Screen Research 100in projection screen. TVs, projectors and other AVRs are moved in as needed for testing. We use a TV stand from Gecko (www.gecko-furniture.co.uk) for mounting flatscreens. A Philips 46PFL9705H TV is used for 3D movie and games playback. The room is fully cabled with speaker, HDMI, and interconnects from Peerless. Multiple displays can be fed from the same source using a Gefen 2-in-4-out HDMI switcher/splitter, and the room is also equipped with network connections.

The testing equipment used for TVs and projectors is the Chroma5Pro meter and ChromaPure Pro software supplied by Kalibrate Ltd (www.kalibrate.co.uk).

This sophisticated tristimulus colorimeter and analysis software allows us to measure functions such as contrast ratio, colour temperature and luminance, all essentials in picture performance.

The Test Lab

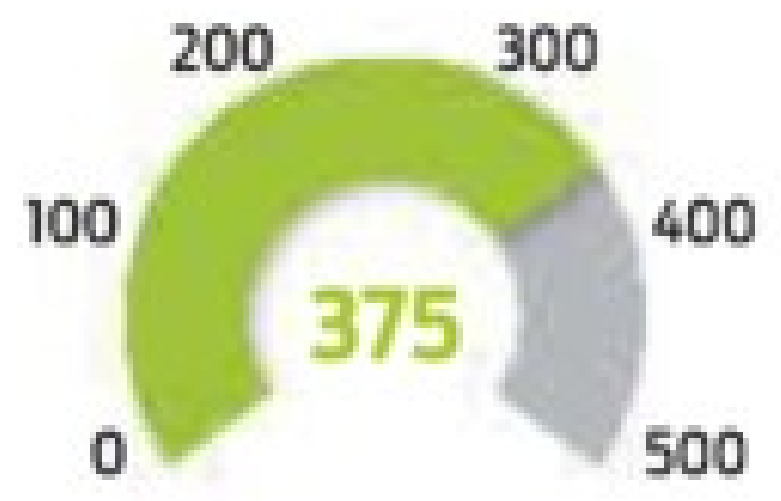
Mainly used for performance analysis of amplifiers and players, the Test Lab is equipped with an Audio Precision APX585 multichannel analyser. This generates programmable test signals, and runs a huge range of tests of functions such as output power, frequency response and distortion. It also has digital audio test functions. A Tektronix VM700 is used for analysis of analogue video signals.

Cables for the test system are again from Peerless.

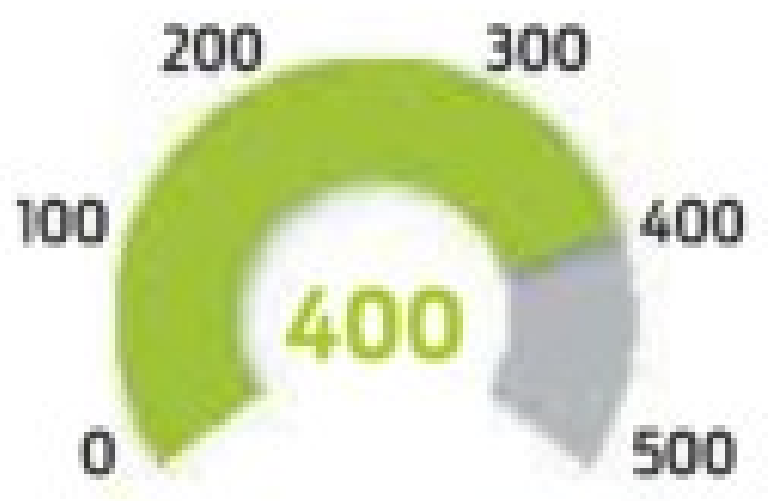
In addition to the main test units, we use a number of audio and video signal generators from Sencore and Snell & Wilcox, analogue test equipment such as a oscilloscope, mains power meters from Maplin, a library of test and measurement DVDs and Blu-rays (plus all the newest software releases), and standardised digital files for media players.

Tech Lab tests explained

TV power consumption: Watts



White screen: This is a measurement of a display's power consumption in Watts when displaying a pure white 100IRE signal with muted audio



Test footage: Here the power consumption is measured with a looped test sequence of live footage (complete with explosions!) and the audio volume up

TV contrast: ratio

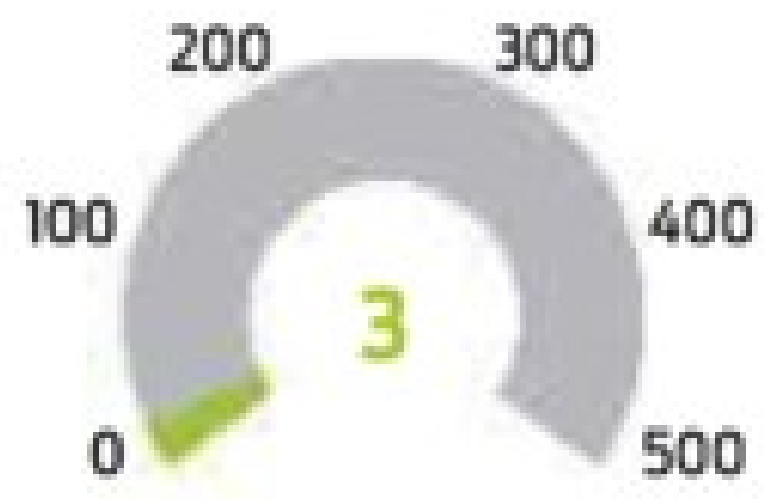
Claimed
10,000:1
Actual
450:1

Picture: Contrast ratio claims by TV manufacturers are often extravagant, and don't follow an established standard. Our real-world measurements cut through the hype and allow one brand's contrast to be compared with another in a consistent way

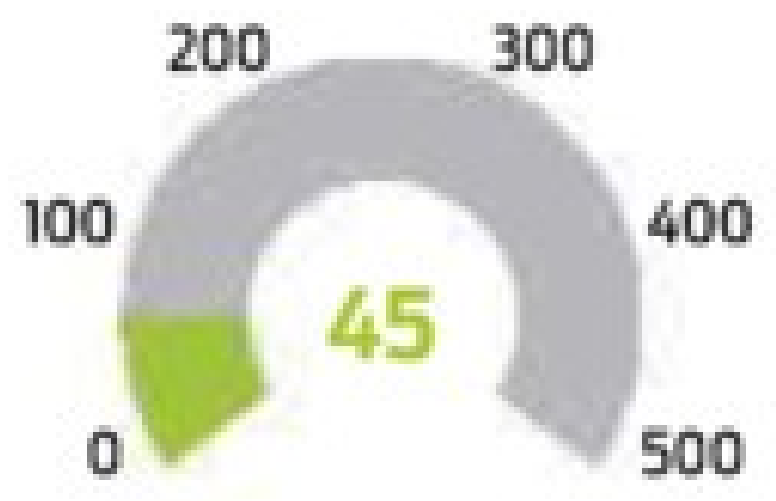
Colour temp: Kelvin

Presets: Most TVs default to a picture setting, which is too bright and 'hot' (blue), in order to make them look good in shops, but also have a choice of colour temperature presets. We tell you which of these gets closest to the industry standard setting of 6,500K (D65)

Blu-ray/DVD power consumption: Watts

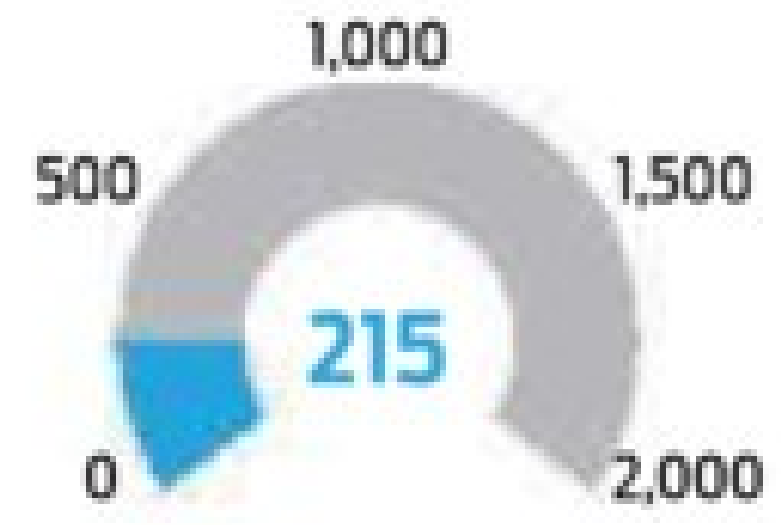


Idling: By EU regulation, standby power consumption for most devices is now under 1W, so we don't usually measure this; but the consumption when power is on can be considerably higher, so we measure this for DVD and Blu-ray players and some other devices



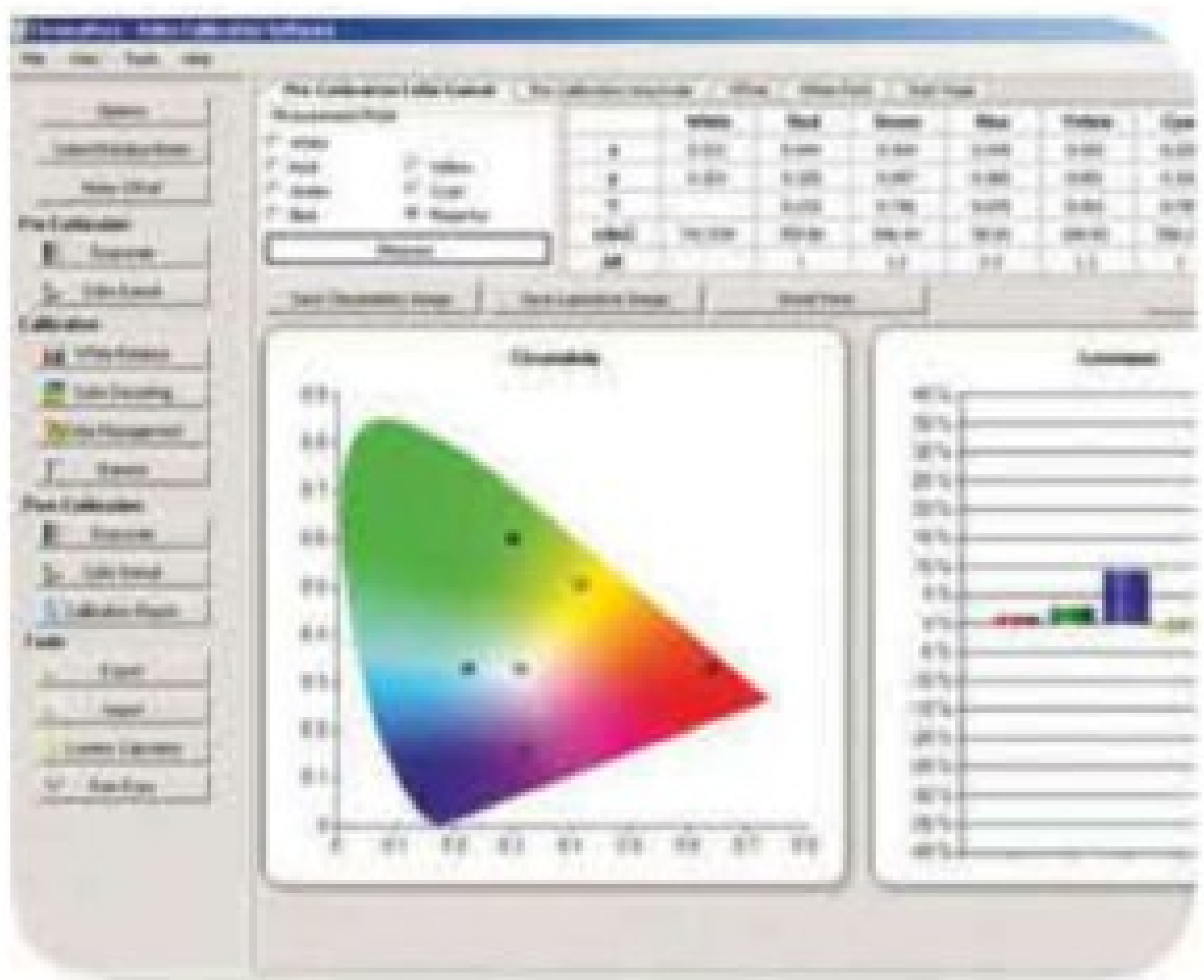
Playing: When a disc is spinning, the device's power consumption usually rises, so we measure when playing a standard disc. In theory, media players should display no change in consumption when playing

Audio Jitter: Ps



Sound: The analogue audio jitter from a device such as a Blu-ray player is measured in picoseconds. The lower the number, the better. Though analogue audio output is perhaps rarely used, jitter is often a good indicator of the general build and component quality of many devices

HOME CINEMA Choice



Test bench: The Viewing Room (above) simulates a typical home cinema, while the MSI laptop runs test software for the APX585 analyser (right) and ChromaPure system (above right)

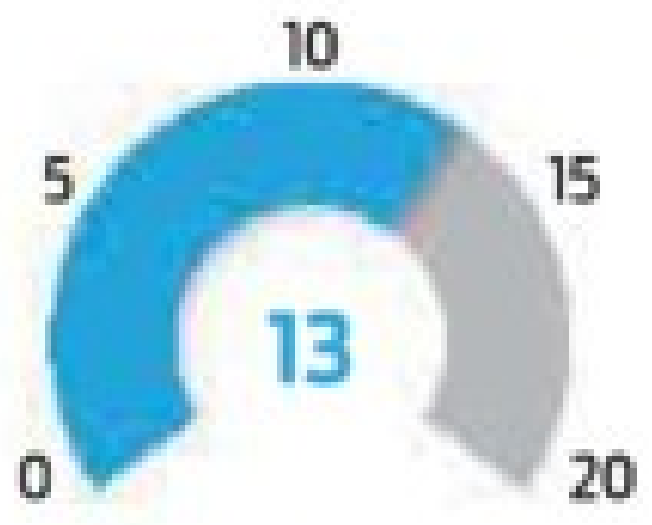
Audio Precision
DIGITAL I/O

For testing of media software and portable testing applications, we use an MSI GT640 laptop PC with HDMI output and SRS sound.

Results

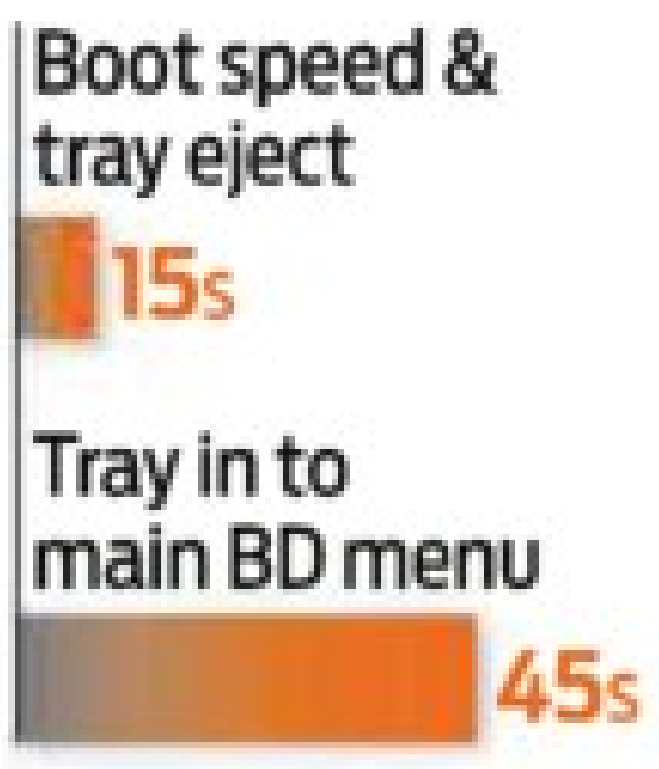
All this testing generates a huge mount of data, which is fed into product reviews and stored on our database. From this we can establish performance averages which help us to keep our scoring realistic. Of course, this mass of information is too unwieldy and detailed to publish in the magazine unedited, so our next job is to present it in a way which is meaningful and easy to understand. Our graphical presentations (see below) should make it all more digestible. So, while one key reviewer is normally by-lined for our tests, the whole team will have been involved in bringing you results you can rely on ●

Video Jitter: Ns



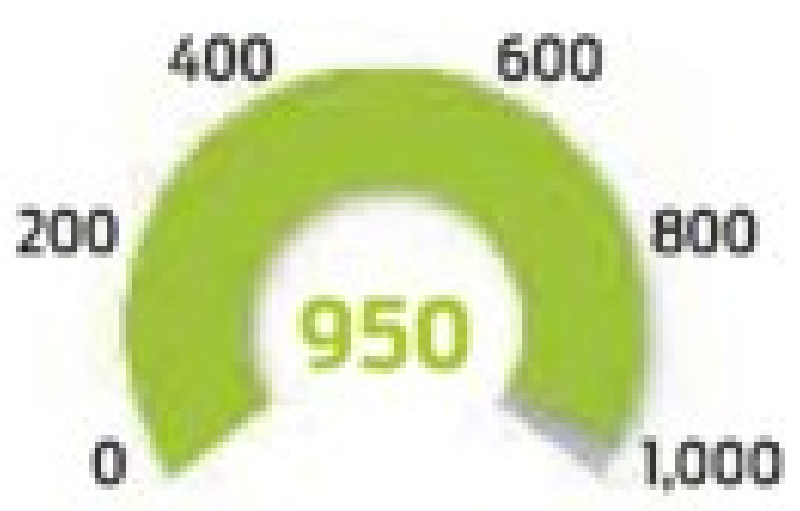
Vision: Again, the analogue video jitter of a DVD or BD player may be less relevant when the digital output is normally used, but it is a good indicator of general build and component quality. We also measure other video quality indicators such as chroma crosstalk and frequency response at 5.8MHz

Loading: Boot/Java



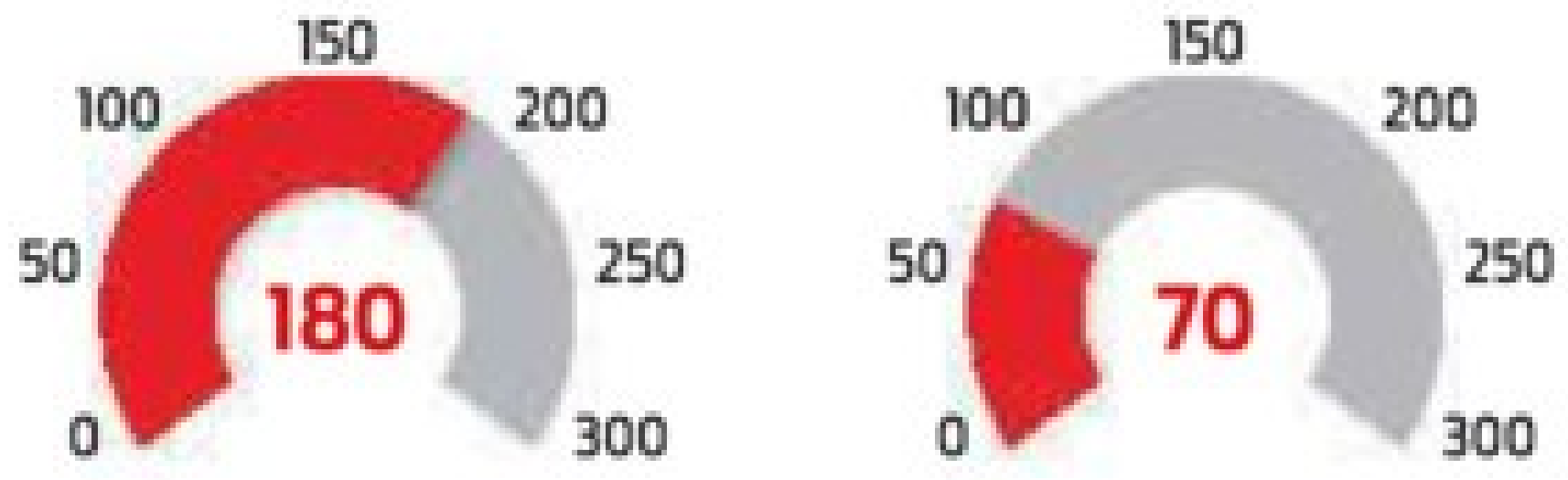
Disc loading & Java: Blu-ray disc players can be annoyingly slow to load and play discs, thanks mainly to the DRM and Java content. We measure times from power on to tray opening, and tray in to boot menu on a standard BD disc

AVR power: Watts



Powered: Power consumption of an AV amp can be high, but it's a requirement of decent output levels. We measure consumption in two states, when idle, and when loaded with a multichannel surround system

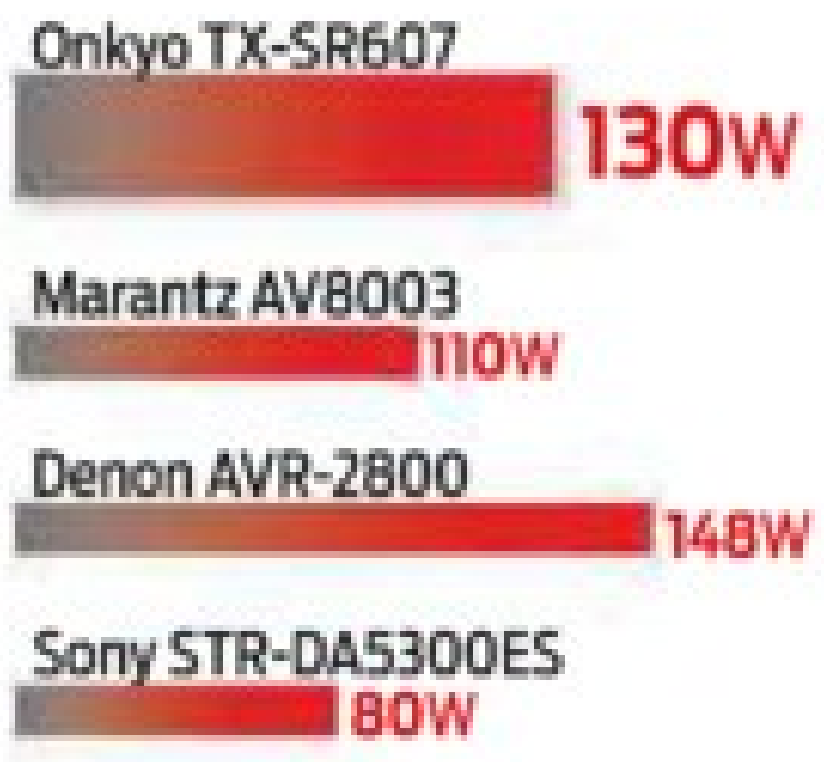
Amp output power: Watts (8Ω , 0.5% THD)



2-channel 8Ω: Manufacturers' claims for amplifier output power can be wildly exaggerated, and testing standards vary widely. Our tests deliver a figure for stereo performance with an 8Ω load, and quote a Total Harmonic Distortion result

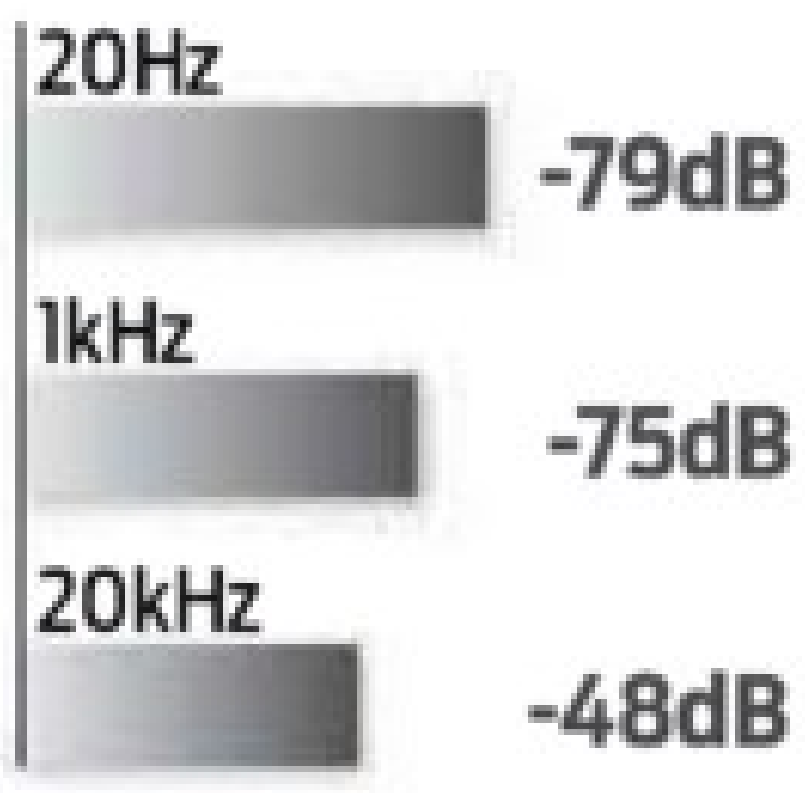
5-channel 8Ω: In most cases, multichannel performance will not match up to the two-channel figure. We push the products to its limit in multi-channel mode and quote the figure reached before unacceptable distortion results

Pure power: Watts



Fidelity firewall: This is our way of measuring an amp's output power ability before it is tainted by distortion. We measure at 1KHz with an 8Ω load to 0.05% THD to get an indication both of output power and component quality

Signal/noise: dB



S/N tests: These amp measurements reveal the ratio of signal to noise at a specific frequency. Low, mid and high readings are taken to determine the imaging and sonic character of the amp

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The magazine for digital TV enthusiasts

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SELECT

→ **Buying Guide** **BEST EVER LCD TV** The top performing LCD screens in the UK **HI-DEF PLAYERS** Looking for a Blu-ray deck? We help you choose **PLASMA POWER** Your guide to the ultimate bigscreen TV **ROCKIN' RECEIVERS** The best specs and latest codecs **SUPREME SPEAKERS** Need a 5.1 package? We name the best! **PLUS** subwoofers, projectors, PVRs & more...

TOP
BUYER'S GUIDE
All killer no filler
INFINIA
LG

HCC Ratings key

Officially awesome	1 2 3 4 **5**
Essential purchase	1 2 3 **4** 5
Does the job	1 2 **3** 4 5
Disappointing	1 **2** 3 4 5
Don't touch it	**1** 2 3 4 5

LCD TV

Best on test...

PHILIPS
46in → 46PFL9705H
£2,500 Approx

1 2 3 **4** 5

Philips' debut 3DTV is worthy of its £2,500 ticket

Highs: Excellent 3D and 2D images; solid audio; interactive functions
Lows: No Freeview HD tuner

→ Specifications
3D: Yes, active shutter
Full HD: Yes (to 1080p)
1920 x 1080 resolution
No. of HDMI inputs: 4
No. of Scart inputs: 2 (2 RGB)
No. of component inputs: 1
PC input: 1
Digital tuner: Yes, Freeview

Tested: Issue 189
For more info visit:
www.philips.co.uk

SAMSUNG
55in → UE55C9000
£7,000 Approx

1 2 3 4 **5**

Flagship 3D set from Samsung is a true statement screen

Highs: Class-leading design; first-rate AV performance
Lows: Lacks the Smart Hub feature of Samsung's 2011 range

→ Specifications
3D: Yes, active shutter
Full HD: Yes (to 1080p)
1920 x 1080 resolution
No. of HDMI inputs: 4
No. of Scart inputs: 1 (RGB)
No. of component inputs: 1
PC input: 1
Digital tuner: Yes, Freeview HD

Tested: Issue 185
For more info visit:
www.samsung.co.uk

PHILIPS
58in → 58PFL9955H
£4,000 Approx

1 2 3 4 **5**

The CinemaScope TV returns with 3D and LED backlighting

Highs: Ultra-wide form; 'net connectivity; picture performance
Lows: No HD tuner

→ Specifications
3D: Yes, active shutter
Full HD: Yes (to 1080p)
2,560 x 1,080 resolution
No. of HDMI inputs: 4
No. of Scart inputs: 2 (1 RGB)
No. of component inputs: 1
PC input: Via HDMI only
Digital tuner: Yes, Freeview

Tested: Issue 190
For more info visit:
www.philips.co.uk

LG
47in → 47LW550T
£1,200 Approx

1 2 3 **4** 5

Passive 3D set performs well and offers excellent value

Highs: Seven pairs of 3D spex provided; Smart TV features; fuss-free 3D viewing
Lows: Weak 2D-3D conversion

→ Specifications
3D: Yes, passive
Full HD: Yes (to 1080p)
1920 x 1080 resolution
No. of HDMI inputs: 4
No. of Scart inputs: 1 (RGB)
No. of component inputs: 1
PC input: 1
Digital tuner: Yes, Freeview HD

Tested: Issue 194
For more info visit:
www.lge.com/uk

SONY
40in → KDL-40NX713
£1,000 Approx

1 2 3 **4** 5

40incher with slick, pixel perfect performance

Highs: Outstanding HD picture with exceptional motion picture clarity; integrated Wi-Fi
Lows: Limited file support

→ Specifications
3D: Yes, active shutter
Full HD: Yes (to 1080p)
1920 x 1080 resolution
No. of HDMI inputs: 4
No. of Scart inputs: 1 (RGB)
No. of component inputs: 1
PC input: 1
Digital tuner: Freeview HD

Tested: Issue 193
For more info visit:
www.sony.co.uk

Also recommended...

TOSHIBA
55in → 55WL768
£1,800 Approx

1 2 3 **4** 5

Designer 55in 3D screen from Toshiba is worth a look

Highs: HD images; Resolution+ upscaling; full-bodied audio; Jacob Jensen styling
Lows: Crosstalk with 3D

→ Specifications
3D: Yes, active shutter
Full HD: Yes (to 1080p)
1920 x 1080 resolution
No. of HDMI inputs: 4
No. of Scart inputs: 1 (RGB)
No. of component inputs: 2
PC input: 1
Digital tuner: Freeview HD

Tested: Issue 191
For more info visit:
www.toshiba.co.uk

SAMSUNG
46in → LE46C750
£1,500 Approx

1 2 3 **4** 5

3D for all. Affordable active shutter set with CCFL backlight

Highs: Good 2D performance and effective 2D-3D conversion
Lows: Crosstalk problems and narrow viewing angle

→ Specifications
3D: Yes, active shutter
Full HD: Yes (to 1080p)
1920 x 1080 resolution
No. of HDMI inputs: 4
No. of Scart inputs: 2 (1 RGB)
No. of component inputs: 1
PC input: 1
Digital tuner: Freeview HD

Tested: Issue 187
For more info visit:
www.samsung.co.uk

PANASONIC
42in → TX-L42E30B
£900 Approx

1 2 3 **4** 5

Edge-lit LED TV is slightly overpriced, but worth a look

Highs: Natural-looking HD pictures; decent audio; healthy selection of features
Lows: Advert-laden EPG

→ Specifications
3D: No
Full HD: Yes (to 1080p)
1920 x 1080 resolution
No. of HDMI inputs: 4
No. of Scart inputs: 1 (RGB)
No. of component inputs: 1
PC input: 1
Digital tuner: Yes, Freeview HD

Tested: Issue 194
For more info visit:
www.panasonic.co.uk

Editor's Choice...

SAMSUNG
55in → UE55D8000
£2,500 Approx

1 2 3 4 **5**

HOME CINEMA
NEW ENTRY

Samsung's cost-no-object 9000 series launched in 2010 but still tops the brand's range – however, if you want Samsung's most technologically advanced screen then look no further than its 2011 8000 series. These replace the Internet@TV portal with the much improved Smart Hub gateway, slim the bezel down, add in a Freesat HD tuner and knock a few grand off the price tag. And, of course, they retain the best-in-class picture performance.

Tested: Issue 196
For more info visit: www.samsung.co.uk

→ Specifications
3D: Yes, active shutter
Full HD: Yes (to 1080p)
1920 x 1080 resolution
No. of HDMI inputs: 4
No. of Scart inputs: 1 (RGB)
No. of component inputs: 1
PC input: 1
Digital tuner: Yes, Freeview HD, Freesat HD

Plasma TV

Best on test...

LG

50in → 50PX990
£1,600 Approx

1 2 3 **4** 5

THX 3D certified plasma with designer looks

Highs: Beautifully built; relatively little crosstalk with 3D;
Lows: Image retention issues; black levels could be better

→ Specifications
3D: Yes, active shutter
Full HD: Yes (up to 1080p)
1920 x 1080 resolution
No. of HDMI inputs: 4
No. of Scart inputs: 1 (RGB)
Component: 1, PC input: Yes
Digital tuner: Freeview HD

Tested: Issue 192
For more info visit:
www.lge.com/uk

PANASONIC

65in → TX-P65VT20
£4,500 Approx

1 2 3 **4** 5

The biggest 3D TV currently available is worth the high ticket

Highs: High-impact bigscreen pictures; minimal crosstalk with 3D images
Lows: Sucks electricity

→ Specifications
3D: Yes, active shutter
Full HD: Yes (up to 1080p)
1920 x 1080 resolution
No. of HDMI inputs: 4
No. of Scart inputs: 2 (RGB)
Component 1, PC input: Yes
Digital tuner: Freeview HD and Freesat HD

Tested: Issue 186
For more info visit:
www.panasonic.co.uk

PANASONIC

50in → TX-P50GT30
£1,800 Approx

1 2 3 4 **5**

Second-gen 3D plasma from Panasonic is a videophile's dream

Highs: Stunning HD/3D pictures; robust build quality
Lows: No 3D glasses included; 3D pictures lack brightness

→ Specifications
3D: Yes, active shutter
Full HD: Yes (up to 1080p)
1920 x 1080 resolution
No. of HDMI inputs: 4
No. of Scart inputs: 2 (RGB)
Component: 1, PC input: Yes
Digital tuner: Freeview HD and Freesat HD

Tested: Issue 195
For more info visit:
www.panasonic.co.uk

HOME CINEMA NEW ENTRY

LG

50in → P50PZ950T
£1,600 Approx

1 2 3 **4** 5

Another excellent THX 3D plasma from LG

Highs: Smart TV features; solid 3D and 2D playback
Lows: Wi-Fi not integrated; eco modes weaken picture quality

→ Specifications
3D: Yes, active shutter
Full HD: Yes
1920 x 1080 resolution
No. of HDMI inputs: 4
No. of Scart inputs: 2 (1 RGB)
Component: 1, PC input: Yes
Digital tuner: Freeview HD

Tested: Issue 196
For more info visit:
www.lge.com/uk

SAMSUNG

50in → PS50C6900
£1,300 Approx

1 2 3 **4** 5

Excellent 50in 3D plasma from the Korean AV kings

Highs: Picture performance calibration tools; media functionality; value for money
Lows: Screen is quite reflective

→ Specifications
3D: Yes, active shutter
Full HD: Yes
1920 x 1080 resolution
No. of HDMI inputs: 4
No. of Scart inputs: 1 (1 RGB)
Component: 1, PC input: 1
Digital tuner: Yes, Freeview HD

Tested: Issue 191
For more info visit:
www.samsung.co.uk

Also recommended...

PANASONIC

50in → TX-P50G20
£1,500 Approx

1 2 3 4 **5**

Freeview HD and Freesat HD plasma is the FTA king

Highs: Performance; price; Freesat/Freeview HD tuners;
Lows: USB recording mode comes with strings attached

→ Specifications
3D: No
Full HD: Yes (up to 1080p)
1920 x 1080 resolution
No. of HDMI inputs: 4
No. of Scart inputs: 2 (RGB)
Component: 1, PC input: Yes
Digital tuner: Freeview HD and Freesat HD

Tested: Issue 182
For more info visit:
www.pioneer.co.uk

PANASONIC

42in → TX-P42G15
£850 Approx

1 2 3 **4** 5

Freesat HD NeoPDP at an enticing price

Highs: Wide viewing angle; excellent HD pics
Lows: Lacks brightness; three HDMIs only

→ Specifications
3D: No
Full HD: Yes
1920 x 1080 resolution
No. of HDMI inputs: 3
No. of Scart inputs: 2 (2 RGB)
Component: 1, PC input: Yes
Digital tuner: Freeview and Freesat HD

Tested: Issue 180
For more info visit:
www.panasonic.co.uk

SAMSUNG

50in → PS50A556
£1,000 Approx

1 2 3 **4** 5

Bargain-priced monster screen with a few caveats

Highs: Superb specification; great build quality; sharp detail
Lows: Some motion artefacts and noise visible

→ Specifications
3D: No
Full HD: Yes (up to 1080p)
1920 x 1080 resolution
No. of HDMI inputs: 3
No. of Scart inputs: 2 (1 RGB)
Component: 1, PC input: Yes
Digital tuner: Freeview

Tested: Issue 161
For more info visit:
www.samsung.co.uk

Editor's Choice...

PANASONIC

50in → TX-P50VT20
£2,000 Approx

1 2 3 4 **5**

The arrival of Panasonic's first 3DTV was always going to get the AV juices running, and this 50in plasma doesn't disappoint. 3D Blu-ray material comes over sharp, smooth and crosstalk-free, while Sky's half-resolution 3D preview channel is revelatory, with sports coverage in particular showing excellent depth and detail. Other highlights of this surprisingly affordable 3D set include the two pairs of supplied eyewear, class-leading 2D hi-def picture performance, and savvy networking skills.

Tested: Issue 183
For more info visit: www.panasonic.co.uk

→ Specifications
3D: Yes, active shutter
Full HD: yes (up to 1080p)
Native resolution: 1,920 x 1,080
No. of HDMI inputs: 4
No. of Scart inputs: 2 (RGB)
No. of component inputs: 1
PC input: Yes
Digital tuner: Freeview HD and Freesat HD

Blu-ray players

Best on test...

DENON

Blu-ray → DVD-A1UD
£4,500 Approx

1 2 3 4 **5**

Reference universal Blu-ray player that sets new standards

Highs: Stunning lifelike picture; genuine hi-fi sound; awesome DVD upscaling
Lows: Complex to set up; not for those on a budget!

→ Specifications
3D: No
Blu-ray profile: 2.0
Multichannel phono out: Yes (7.1)
Onboard Dolby TrueHD/DTS-HD MA decoding: Yes/Yes
Dolby TrueHD/DTS-HD MA bitstream output: Yes/Yes
DVD-A/SACD playback: Yes/Yes
Networkability: Ethernet

Tested: Issue 178
For more info visit: www.denon.co.uk

PHILIPS

Blu-ray → BDP7500 MK II
£200 Approx

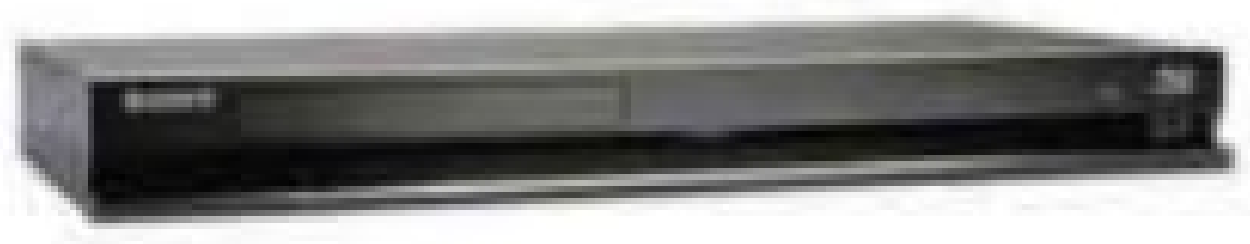
1 2 3 **4** 5

Feature-packed and neatly designed 3D player

Highs: Overall picture and sound performance; slick GUI
Lows: Upscaling of DVDs could be better; not lightning quick

→ Specifications
3D: Yes
Blu-ray profile: 2.0
Multichannel phono out: Yes (7.1)
Onboard Dolby TrueHD/DTS-HD MA decoding: Yes/Yes
Dolby TrueHD/DTS-HD MA bitstream output: Yes/Yes
DVD-A/SACD playback: No/No
Networkability: Ethernet; wi-fi via dongle; 2 x USB; Net TV portal

Tested: Issue 194
For more info visit: www.philips.co.uk



SONY

Blu-ray → BDP-S570
£230 Approx

1 2 3 4 **5**

3D Blu-ray spinner is packed with features

Highs: SACD playback; BBC iPlayer onboard
Lows: No multichannel phono outputs means you'll need a v1.4 AVR for 3D lossless audio

→ Specifications
3D: Yes
Blu-ray profile: 2.0
Multichannel phono out: No (stereo only)
Onboard Dolby TrueHD/DTS-HD MA decoding: Yes/Yes
Dolby TrueHD/DTS-HD MA bitstream output: Yes/Yes
DVD-A/SACD playback: Yes/No
Networkability: Ethernet; wi-fi, USB, iPlayer, LOVEFiLM

Tested: Issue 185
For more info visit: www.sony.co.uk

HOME CINEMA NEW ENTRY

OPPO

Blu-ray → BDP-93EU
£500 Approx

1 2 3 **4** 5

First 3D spinner from US brand majors on performance

Highs: Fast to load; great build quality and AV performance; SACD/DVD-A playback
Lows: Won't play MP3s for some reason

→ Specifications
3D: Yes
Blu-ray profile: 2.0
Multichannel phono: Yes (7.1)
Onboard Dolby TrueHD/DTS-HD MA decoding: Yes/Yes
Dolby TrueHD/DTS-HD MA bitstream output: Yes/Yes
DVD-A/SACD playback: Yes/Yes
Networkability: Ethernet; USB; wi-fi via supplied dongle

Tested: Issue 196
For more info visit: www.oppo-bluray.co.uk

DENON

Blu-ray → DBP-1611UD
£400 Approx

1 2 3 **4** 5

Affordbale universal player with no-nonsense build quality

Highs: Exceptional image clarity; decent file support; SACD/DVD-A playback
Lows: Media player suffers from poor navigation

→ Specifications
3D: Yes
Blu-ray profile: 2.0
Multichannel phono out: No (stereo only)
Onboard Dolby TrueHD/DTS-HD MA decoding: Yes/Yes
Dolby TrueHD/DTS-HD MA bitstream output: Yes/Yes
DVD-A/SACD playback: Yes/yes
Networkability: Ethernet; USB; YouTube

Tested: Issue 194
For more info visit: www.denon.co.uk

Editor's Choice...

PANASONIC

Blu-ray → DMP-BDT310 → £260 Approx

1 2 3 4 **5**

This second-generation 3D Blu-ray deck improves on its BDT300 predecessor thanks to some new features and a more wallet-friendly asking price. Standout features – alongside the typically excellent 2D and 3D playback – are Skype functionality, 2D-3D coversion, access to Panasonic's Viera Connect online portal, faster loading times and a revamped GUI that takes usability to the next level. The new-look fascia and motion-sensitive controls add even more to the Panasonic party. Without doubt the current best budget choice for 3D Blu-ray.

Tested: Issue 194
For more info visit: www.panasonic.co.uk

→ Specifications
3D: Yes, plus 2D conversion
Blu-ray profile: 2.0
DVD upscaling: Up to 1080p
Multichannel phono out: No (stereo only)
Onboard Dolby TrueHD/DTS HD-MA decoding: Yes/Yes
Dolby TrueHD/DTS-HD MA bitstream output: Yes/Yes
DVD-A/SACD playback: No/No
Networkability: Ethernet; Wi-Fi; 2 x USB; Viera Connect portal; Skype functionality; twin HDMI outputs

Also recommended

ARCAM

Blu-ray → BDP100
£1,300 Approx

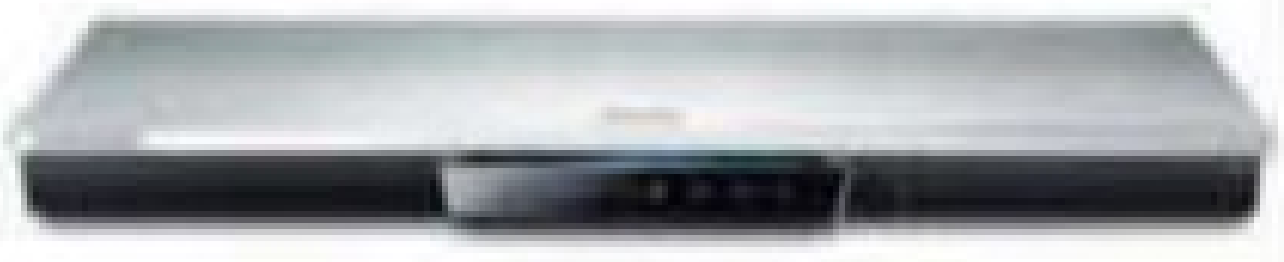
1 2 3 **4** 5

Debut deck from Arcam offers few features but a solid BD/CD experience

Highs: Classy Blu-ray/DVD and CD quality; superb build
Lows: No online content or media streaming

→ Specifications
3D: No
Blu-ray profile: 2.0
Multichannel phono out: No (stereo only, two zones)
Onboard Dolby TrueHD/DTS-HD MA decoding: Yes/Yes
Dolby TrueHD/DTS-HD MA bitstream output: Yes/Yes
DVD-A/SACD playback: No/No
Networkability: Ethernet; USB

Tested: Issue 194
For more info visit: www.arcam.co.uk



SAMSUNG

Blu-ray → BD-D6900
£300 Approx

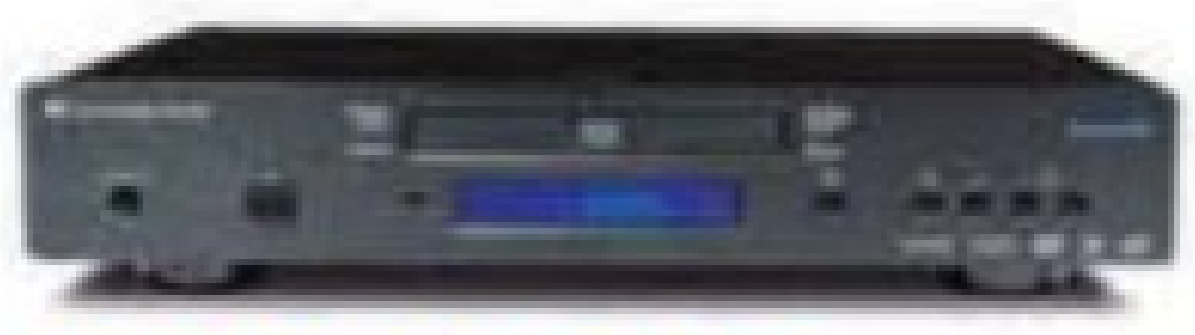
1 2 3 **4** 5

Curious 3D BD/Freeview HD receiver hybrid

Highs: Good 2D-3D conversion; Smart Hub portal access; recording to USB
Lows: Average DVD upscaling; hit-and-miss streaming

→ Specifications
3D: Yes, plus 2D conversion
Blu-ray profile: 2.0
Multichannel phono out: No (stereo only)
Onboard Dolby TrueHD/DTS-HD MA decoding: Yes/Yes
Dolby TrueHD/DTS-HD MA bitstream output: Yes/Yes
DVD-A/SACD playback: No/No
Networkability: Ethernet; wi-fi; USB; Smart Hub portal

Tested: Issue 195
For more info visit: www.samsung.co.uk



CAMBRIDGE AUDIO

Blu-ray → Azur 650BD
£400 Approx

1 2 3 **4** 5

First deck from UK brand is a solid performer – and multiregion DVD, too

Highs: Bulletproof build; excellent AV performance
Lows: No 'net features

→ Specifications
3D: No
Blu-ray profile: 2.0
Multichannel phono out: Yes (7.1)
Onboard Dolby TrueHD/DTS-HD MA decoding: Yes/Yes
Dolby TrueHD/DTS-HD MA bitstream output: Yes/Yes
DVD-A/SACD playback: Yes/Yes
Networkability: Ethernet for BD-Live; 2 x USB

Tested: Issue 184
For more info visit: www.cambridgeaudio.com

Recorders

Best on test...

PHILIPS

Freeview HD PVR → HDT 8520
£250 Approx

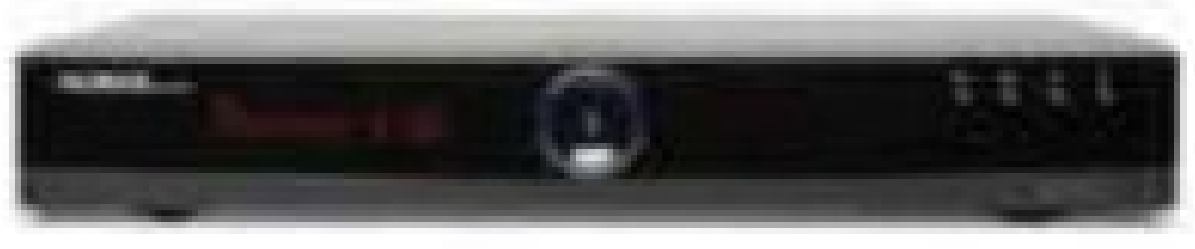
1 2 3 **4** 5

Sets a high standard for user-friendliness

Highs: Good quality HD and SD pics; cutting-edge looks
Lows: No multimedia functions; EPG can be frustrating

→ Specifications
HDD size: 500GB
Twin tuners: Yes, Freeview HD
HDMI: Yes, with 1080p upscaling
Component output: No

Tested: Issue 185
For more info visit:
www.philips.co.uk



HUMAX

Freeview HD PVR → HDR-FOX T2
£330 Approx

1 2 3 4 **5**

The pick of the new Freeview HD PVRs so far

Highs: Joy to use; multimedia talent; great performance
Lows: Cramped remote control; can't trim recordings

→ Specifications
HDD size: 500GB
Twin tuners: Yes, Freeview HD
HDMI: Yes, with 1080p upscaling
Component output: No

Tested: Issue 187
For more info visit:
www.humaxdigital.com/uk

TECHNISAT

Freeview HD PVR → HDFV
£150 Approx

1 2 3 **4** 5

Affordable Freeview HD PVR with external USB recording

Highs: Quality HD and upscaled SD performance; friendly user interface
Lows: USB files can't be played back elsewhere; single tuner

→ Specifications
HDD size: N/A – records to USB
Twin tuners: No, single Freeview HD tuner
HDMI: Yes, with 1080p upscaling
Component output: No

Tested: Issue 188
For more info visit:
www.technisat.co.uk

SAMSUNG

Freeview HD PVR/BD → BD-D8500
£380 Approx

1 2 3 **4** 5

3D Blu-ray player with 500GB Freeview HD PVR

Highs: Abundant features; Smart Hub portal and network features; plays discs too!
Lows: Can't record two channels

→ Specifications
HDD size: 500GB
Twin tuners: Yes, Freeview HD
HDMI: Yes, with 1080p upscaling
Component output: No

Tested: Issue 194
For more info visit:
www.samsung.co.uk

HOME CINEMA CHOICE
NEW ENTRY

ECHOSTAR

Freesat PVR → HDS-600RS
£350 Approx

1 2 3 **4** 5

Freesat+ PVR with integrated Slingbox technology

Highs: Built-in placeshifting; styliish; easy to use
Lows: Quality of 'slinged' video is low; app costs extra

→ Specifications
HDD size: 500GB
Twin tuners: Yes, Freesat HD
HDMI: Yes, with 1080p upscaling
Component output: No

Tested: Issue 196
For more info visit:
www.myechostar.com

Also recommended

TVONICS

PVR → DTR-HD500
£250 Approx

1 2 3 **4** 5

Stylish 500GB twin tuner Freeview+ HD PVR

Highs: Commendable picture quality; neat design; twin HDMI inputs
Lows: USB ports are for JPEG display and service updates only

→ Specifications
HDD size: 500GB
Twin tuners: Yes, Freeview HD
HDMI: Yes, 2-in, 1-out with 1080p upscaling
Component output: No

Tested: Issue 191
For more info visit:
www.tvonics.com

PANASONIC

DVDR → DMR-EX773
£300 Approx

1 2 3 **4** 5

DVD/HDD recorder that misses out on Freeview HD

Highs: Solid AV performance; heaps of features and recording flexibility
Lows: No infra-red control over STB; single Freeview tuner only

→ Specifications
HDD size: 160GB
Twin tuners: No, single digital only
HDMI: Yes
Component output: Yes
Camcorder input: No – USB/SD via USB instead
Format: -R/RW, +R/RW, -RAM
Dual-layer recording: Yes

Tested: Issue 182
For more info visit:
www.panasonic.co.uk

3VIEW

Freeview HD PVR → 3VHD
£300 Approx

1 2 3 **4** 5

Feature-packed DVB-T2 PVR/ media player hybrid

Highs: Online functionality; media player/server;
Lows: No digital teletext or integrated wi-fi

→ Specifications
HDD size: 500GB
Twin tuners: Yes, DVB-T2 (not Freeview certified as there is no 'red button' support)
HDMI: Yes, with 1080p upscaling
Component output: No

Tested: Issue 193
For more info visit:
www.3view.com

Editor's Choice...

PANASONIC

DVD/BDR → DMR-BW880 → £800 Approx

1 2 3 **4** 5

Panasonic has followed last year's award-winning twin Freesat HD/Blu-ray recorder with this Freeview HD model. Again sporting a 500GB HDD, Profile 2.0 Blu-ray player/recorder and Viera Cast online interactivity, this deck solidifies Panasonic's status as the kings of convergence. Blu-ray playback is first-rate, and as a PVR the BW880 is unique in its flexibility. Other goodies, including Gracenote compatibility, DLNA certification, DV, SD and USB inputs add to its appeal. Not cheap, but true quality often isn't.

Tested: Issue 186
For more info visit: www.panasonic.co.uk

→ Specifications
Hard disk: 500GB
Twin Tuners: Yes 2 x Freeview HD
Component output: No
Format: BD-RE, BD-R, DVD-R/RW, +R/RW, -RAM
Dual-layer recording: Yes

AV receivers

Best on test...

ONKYO
AVR → TX-SR609
£500 Approx

1 2 3 4 **5**

Affordable 7.2-channel AVR with Spotify and 4K scaler

Highs: Overflowing with features; revamped design; involving audio performance
Lows: Doesn't like being driven too hard

→ Specifications
Power: 7 x 160W (6Ω)
Upscaling via HDMI: Yes
Tuner: Yes (AM/FM/net)
Dolby TrueHD: Yes
DTS-HD: Yes
Zone 2: Yes
Serial port control: No
THX certification: Select2 Plus
Component input: 2
HDMI: 6-in, 1-out (v1.4a)
Multichannel input: No

Tested: Issue 195
For more info visit:
www.eu.onkyo.com

ANTHEM
AVR → MRX 700
£2,100 Approx

1 2 3 **4** 5

Sonically superior AVR that misses out on a few features

Highs: Fantastically engaging sound; excellent auto EQ system; brooding design
Lows: Only four HDMI inputs; setup not for the faint-hearted

→ Specifications
Power: 7 x 120W (8Ω)
Upscaling via HDMI: Yes
Tuner: Yes (AM/FM)
Dolby TrueHD: Yes
DTS-HD: Yes
Zone 2: Yes
Serial port control: Yes
THX certification: No
Component input: 3
HDMI: 4-in, 1-out (v1.4)
Multichannel input: Yes (7.1)

Tested: Issue 195
For more info visit:
www.anthemavs.co.uk

ONKYO
AVR → TX-NR5008
£2,400 Approx

1 2 3 **4** 5

New flagship receiver exhibits a smoother, mellower sound

Highs: Extensive codec support; ample connectivity, power on tap; network audio
Lows: Navigation could be more intuitive

→ Specifications
Power: 9 x 140W (6Ω)
Upscaling via HDMI: Yes
Tuner: Yes (AM/FM/net)
Dolby TrueHD: Yes
DTS-HD: Yes
Zone 2: Yes, and 3
Serial port control: Yes
THX certification: Ultra 2 Plus
Component input: 3
HDMI: 8-in, 2-out (v1.4a)
Multichannel input: Yes (7.1)

Tested: Issue 191
For more info visit:
www.eu.onkyo.com

ARCAM
AVR → AVR400
£1,700 Approx

1 2 3 4 **5**

Delicious-sounding Class A/B receiver will please audiophiles

Highs: Power output exceeds Arcam's own claims; sumptuous design and build
Lows: Lack of HDMI connections may hinder setup

→ Specifications
Power: 7 x 90W (8Ω)
Upscaling via HDMI: Yes
Tuner: (Yes FM/AM/net/DAB)
Dolby TrueHD
DTS-HD: Yes
Zone 2: Yes
Serial port control: Yes
THX certification: No
Component input: 3
HDMI: 5-in, 1-out (v1.4a)
Multichannel input: Yes (7.1)

Tested: Issue 194
For more info visit:
www.arcam.co.uk

PIONEER
AVR → SC-LX83
£2,000 Approx

1 2 3 4 **5**

Pioneer's top-flight AVR mixes power, control and usabilty

Highs: Punchy, detailed, expansive sound; iControl app is superb; MCACC setup; RF remote handset
Lows: Seven-channel only

→ Specifications
Power: 7 x 190W (8Ω)
Upscaling via HDMI: Yes
Tuner: Yes (AM/FM)
Dolby TrueHD: Yes
DTS-HD: Yes
Zone 2: Yes, and 3
Serial port control: Yes
THX certification: Yes, Ultra2 Plus
Component input: 3
HDMI: 6-in, 2-out
Multichannel input: Yes (7.1)

Tested: Issue 186
For more info visit:
www.pioneer.co.uk

Editor's Choice...

DENON
AVR → AVR-4311
£2,000 Approx

1 2 3 4 **5**

With no 2011 successor to the AVR-4810, the 4311 takes the mantle of Denon's flagship receiver. It's no surprise, then, that it's a storming home cinema product. Its nine onboard amplifiers pack enough grunt to drive a serious speaker system, and it can run an 11-channel array with the help of a stereo amplifier. Performance, after Audyssey calibration, is glorious, and this is matched by a smart feature set – particularly Apple AirPlay, which will make you rethink your MP3 collection.

Tested: Issue 193
For more info visit: www.denon.co.uk

→ Specifications
Power: 9 x 170W (6Ω)
Upscaling to HDMI: Yes
Tuner: AM/FM/Net
Dolby TrueHD/DTS-HD: Yes/Yes
Zone 2: Yes and 3 & 4
Serial port control: Yes
THX certification: No
Component input: 3
HDMI: 6-in, 2-out (v1.4)
Multichannel input: Yes (7.1)

Also recommended...

MARANTZ
AVR → SR7005
£1,400 Approx

1 2 3 4 **5**

Marantz finally shakes off its 2-channel bias with this stonking multichannel marvel

Highs: Effortlessly achieves superb detail; great value
Lows: Lacks 9-ch output; not THX rated; tricky to set LFE

→ Specifications
Power: 7 x 125W (8Ω)
Upscaling via HDMI: Yes
Tuner: Yes (AM/FM/net)
Dolby TrueHD: Yes
DTS-HD: Yes
Zone 2: Yes
Serial port control: Yes
THX certification: No
Component input: 4
HDMI: 6-in, 2-out (v1.4a)
Multichannel input: Yes (7.1)

Tested: Issue 187
For more info visit:
www.marantz.co.uk

DENON
AVR → AVR-2311
£800 Approx

1 2 3 **4** 5

Mid-range Denon sounds good but is feature-lite

Highs: Articulate, fast-paced sound; digital iPod/iPad connection
Lows: Lack of networking is odd; no multichannel inputs

→ Specifications
Power: 7 x 135W (8Ω)
Upscaling via HDMI: Yes
Tuner: Yes (AM/FM)
Dolby TrueHD
DTS-HD: Yes
Zone 2: Yes
Serial port control: Yes
THX certification: No
Component input: 2
HDMI: 6-in, 1-out (v1.4)
Multichannel input: No

Tested: Issue 190
For more info visit:
www.denon.co.uk

PIONEER
AVR → VSX-520
£300 Approx

1 2 3 **4** 5

Affordable but stylish 3D-capable AVR

Highs: Classy design; decent sound quality; good feature count
Lows: Springclip speaker terminals; no OSD

→ Specifications
Power: 5 x 130W (8Ω)
Upscaling via HDMI: Yes
Tuner: Yes (AM/FM)
Dolby TrueHD: Yes
DTS-HD: Yes
Zone 2: No
Serial port control: No
THX certification: No
Component input: 2
HDMI: 3-in, 1-out (v1.4)
Multichannel input: No

Tested: Issue 191
For more info visit:
www.pioneer.co.uk

Projectors

Best on test...

JVC
D-ILA → DLA-X7
£6,500 Approx

1 2 3 4 **5**

Step up 3D D-ILA model for serious systems

Highs: Plenty of setup and calibration flexibility; first-rate visuals; quiet in operation
Lows: Slightly tricky colour management; minor crosstalk

→ Specifications
1920 x 1080 resolution
HDMI inputs: 2
Component inputs: 1
D-Sub: Yes
Brightness (claimed): 1,300 ANSI Lumens
Contrast (claimed): 70,000:1
Lamp life (claimed): 3,000hrs
Fan noise: 20dB
24fps: Yes

Tested: Issue 195
For more info visit:
www.jvc.co.uk

SIM2
DLP → MICO 40
£11,00 Approx

1 2 3 4 **5**

SIM2's 'affordable' LED projector claims a 30,000-hour lamp life

Highs: Richly coloured, sharp pictures; nicely designed chassis; enormous setup flexibility
Lows: Bland remote and OS

→ Specifications
1920 x 1080 resolution
HDMI inputs: 2
Component inputs: 1
D-Sub: Yes
Brightness (claimed): 700 ANSI lumens
Contrast (claimed): 50,000:1
Lamp life (claimed): 30,000hrs
Fan noise: 25dB
24fps: Yes

Tested: Issue 189
For more info visit:
www.sim2.co.uk

RUNCO
DLP → LS-5
£7,500 Approx

1 2 3 4 **5**

High-end CI projection for the mass market

Highs: Excellent contrast and colour response; superbly sharp images; minimal rainbow effect
Lows: Noisy runner

→ Specifications
1920 x 1080 resolution
HDMI inputs: 2
Component inputs: 2
D-Sub: Yes
Brightness (claimed): 800 ANSI lumens
Contrast (claimed): 15,000:1
Lamp life (claimed): 2,000 to 4,000hrs
Fan noise: 30dB
24fps: Yes

Tested: Issue 187
For more info visit:
www.pulsemarketing.org

JVC
D-ILA → DLA-X3
£3,600 Approx

1 2 3 4 **5**

Good value video-chucker does 3D, too

Highs: Gorgeous 2D performance; versatile picture controls; low operational noise;
Lows: No THX preset; crosstalk with 3D pictures

→ Specifications
1920 x 1080 resolution
HDMI inputs: 2
Component inputs: 1
D-Sub: Yes
Brightness (claimed): 1,300 ANSI lumens
Contrast (claimed): 50,000:1
Lamp life (claimed): 3,000hrs
Fan noise: 20dB
24fps: Yes

Tested: Issue 193
For more info visit:
www.jvc.co.uk

SONY
SXRD → VPL-HW20
£2,400 Approx

1 2 3 4 **5**

New mid-range model from Sony delivers the goods

Highs: Design; excellent picture quality; good value
Lows: Adjustment tools aren't standard; no 12V trigger

→ Specifications
1920 x 1080 resolution
HDMI inputs: 2
Component inputs: 1
D-Sub: Yes
Brightness (claimed): 1,300 ANSI Lumens
Contrast (claimed): 80,000:1
Lamp life (claimed): 6,000hrs
Fan noise: 20dB
24fps: Yes

Tested: Issue 190
For more info visit:
www.sony.co.uk

Also recommended...

EPSON
LCD → EH-TW5500
£4,000 Approx

1 2 3 **4** 5

Epson's flagship home cinema projector does LCD proud

Highs: Lots of features; easy and flexible to setup; produces the finest LCD pictures yet
Lows: More expensive than rivals; can lose focus a little

→ Specifications
1920 x 1080 resolution
HDMI inputs: 2
Component inputs: 1
D-Sub: Yes
Brightness (claimed): 1,600 ANSI Lumens
Contrast (claimed) 200,000:1
Lamp life (claimed): 4,000hrs
Fan noise: 22dB
24fps: Yes

Tested: Issue 181
For more info visit:
www.epson.co.uk

VIVITEK
DLP → H1085
£1,000 Approx

1 2 3 **4** 5

A brilliant full HD projector at a mouth-watering price

Highs: Rich colours; excellent image tweaks; 12V trigger
Lows: Noisy runner in high brightness mode; some low-level noise in darker scenes

→ Specifications
1920 x 1080 resolution
HDMI inputs: 2
Component inputs: 1
D-Sub: Yes
Brightness (claimed): 2,000 ANSI lumens
Contrast (claimed): 5,000:1
Lamp life (claimed): 4,000hrs
Fan noise: 26dB
24fps: Yes

Tested: Issue 179
For more info visit:
www.vivitekcorp.com

HOME CINEMA CHOICE NEW ENTRY

INFOCUS
DLP → SP8604
£2,500 Approx

1 2 3 **4** 5

Conventional DLP projector that's great value

Highs: Little rainbow effect; good calibration tools; sharp, detailed images with smooth motion
Lows: Somewhat noisy

→ Specifications
1920 x 1080 resolution
HDMI inputs: 3
Component inputs: 1
D-Sub: Yes
Brightness (claimed): 1,700 ANSI lumens
Contrast (claimed): 30,000:1
Lamp life (claimed): 3,000 hours
Fan noise: 28dB
24fps: Yes

Tested: Issue 196
For more info visit:
www.infocus.com

Editor's Choice...

SONY
SXRD → VPL-VW90ES
£5,400 Approx

1 2 3 4 **5**

Sony's new range-topping projector marries an exemplary 2D picture performance with one of the best Active Shutter 3D systems we've seen – extensive user features allow you to pretty much eliminate crosstalk niggles with three-dimensional images. Aside from its video prowess, it also features a smart design and solid build quality, inoffensive running noise and versatile installation options, including zoom focus and electronic lens shift. The best 3D projector we've seen so far – JVC and chums will have to do well to beat it.

Tested: Issue 192
For more info visit: www.sony.co.uk/biz

→ Specifications
1920 x 1080 resolution
HDMI inputs: 2
Component inputs: 1
D-Sub: Yes
Brightness (claimed): 1,000 ANSI lumens
Contrast (claimed): 150,000:1
Lamp life (claimed): NA
Fan noise: 22dB
24fps: Yes

Speaker systems

Best on test...

MONITOR AUDIO

5.1 → Platinum PL200AV
£11,500 Approx

1 2 3 4 **5**

Gorgeous-looking, hi-tech 5.1 system for serious cinema

Highs: Dynamic, engaging sound with pin-sharp detail; taut, powerful bass; excellent build
Lows: Base plinths seem to belong to another design

→ Specifications
Power handling: 2 x 250W, 2 x 120W, 1 x 100W
Rears: Direct radiating
Subwoofer: 1 x 1,000W
Finish: Gloss; Bookshelf: No

Tested: Issue 184
For more info visit:
www.monitoraudio.com

XTZ

5.1 → 99 Series
£2,200 Approx

1 2 3 4 **5**

Potent floorstanding system with serious driver tech

Highs: Solid build quality; detailed, expansive sound; lots of adjustability
Lows: Possibly confusing for the timid technophobe; mail order only

→ Specifications
Power handling: 2 x 550W, 3 x 100W
Rears: Direct radiating
Subwoofer: 300W
Finish: Gloss; Bookshelf: No

Tested: Issue 193
For more info visit:
www.audiosanctum.co.uk

ACOUSTIC ENERGY

5.1 → Aegis Neo V2
£1,200 Approx

1 2 3 4 **5**

Traditional-looking 5.1 system does the job

Highs: Classy build; sophisticated sound with clean bass tones
Lows: At high volumes there's some slight distortion from the floorstanders

→ Specifications
Power handling: 2 x 170W, 3 x 120W
Rears: Direct radiating
Subwoofer: 200W
Finish: Wood; Bookshelf: No

Tested: Issue 191
For more info visit:
www.acoustic-energy.co.uk

CANTON

5.1 → Vento 800 Series
£6,600 Approx

1 2 3 4 **5**

High-performance floorstanding array from Germany's no.1 speaker brand

Highs: Articulate centre channel; powerful subwoofer; beautiful design
Lows: Might make you want to upgrade your AVR...

→ Specifications
Power handling: 2 x 200W, 3 x 150W
Rears: Direct radiating
Subwoofer: 500W
Finish: Wood; Bookshelf: No

Tested: Issue 194
For more info visit:
www.canton.de

KEF

5.1 → T-Series T205
£1,500 Approx

1 2 3 4 **5**

Slim and sultry 5.1 system looks gorgeous and offers sweet surround sonics

Highs: Tight, fast subwoofer and potent, clean-sounding satellites; neat design; wall- and stand-mounting options
Lows: Not for stereophiles or largescale rooms

→ Specifications
Power handling: 2 x 100W, 3 x 150W
Rears: Direct radiating
Subwoofer: 250W
Finish: Gloss; Bookshelf: No

Tested: Issue 192
For more info visit:
www.kef.com

Also recommended...

EMP TEK

7.1 → Impression
£4,000 Approx

1 2 3 **4** 5

Full-fat 7.1 array from new-to-the-UK American brand

Highs: Thrilling, large-scale sound; sweet HF reproduction and forthright midrange; sumptuous build and finish
Lows: Other systems offer greater bass depth and musical fidelity

→ Specifications
Power handling: 4 x 200W, 2 x 100W, 1 x 120W
Rears: Direct radiating
Subwoofer: 100W
Finish: Gloss; Bookshelf: No

Tested: Issue 193
For more info visit:
www.aldoussytems.com

MONITOR AUDIO

5.1 → Apex
£2,400 Approx

1 2 3 4 **5**

Premium compact 5.1 system offers performance and style

Highs: Intricately detailed, articulate and powerful sound; supermodel looks; build quality
Lows: Expensive by normal compact system standards

→ Specifications
Power handling: 4 x 100, 1 x 200W;
Rears: Direct radiating
Subwoofer: 500W
Finish: Gloss; Bookshelf: Yes

Tested: Issue 190
For more info visit:
www.monitoraudio.co.uk

JAMO

5.1 → D500
£1,700 Approx

1 2 3 **4** 5

Value-for-money THX Select2 system for your cinema room

Highs: Good build quality; keen price; THX sound is packed with definition and placement
Lows: Wall-mounting brackets could be improved; uninspiring to look at

→ Specifications
Power handling: 3 x 150W, 2 x 120W;
Rears: Dipoles
Subwoofer: 650W
Finish: Gloss; Bookshelf: No

Tested: Issue 193
For more info visit:
www.jamo.com

Editor's Choice...

PSB

5.1 → Imagine Series
£3,000 Approx

1 2 3 4 **5**

Canadian brand PSB may not be a household name in the UK but with systems like this mid-range marvel we hope that changes. This 5.1 Imagine Series array offers an astonishing performance for its £3,000 price tag – the Ferrofluid-cooled tweeters work in tandem with mid-range drivers and the 500W subwoofer to create an immersive, potent soundfield with both movies and music. Build quality is superb, and the curved edge design is pure class.

Tested: Issue 188
For more info visit: www.armourhome.co.uk

→ Specifications
Power handling: 2 x 200W, 3 x 150W
Rears: Direct radiating
Subwoofer: 500W
Finish: Wood
Bookshelf: No

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Subwoofers

Best on test...

PARADIGM
SW → Seismic 110
£1,200 Approx

1 2 3 4 **5**

Powerful, high-performance 10in sub with quirky styling

Highs: Excellent performance from a compact sub; monstrous power
Lows: Not a budget option

→ Specifications
Frequency response: 18Hz-150Hz (claimed)
Amplifier: 850W
Driver: 10in
Weight: 16.8kg
Enclosure: Sealed
On-board equaliser: No
Remote control: No

Tested: Issue 188
For more info visit:
www.paradigm.com

VELODYNE
SW → CHT-15Q
£1,200 Approx

1 2 3 4 **5**

Potent 15in woofer with excellent EQ system

Highs: Tremendous grip, power, and headroom; supplied remote control
Lows: Pretty dull to look at

→ Specifications
Frequency response: 23Hz-120Hz (claimed)
Amplifier: 750W
Driver: 15in
Weight: 34kg
Enclosure: Ported
On-board equaliser: Yes
Remote control: Yes

Tested: Issue 189
For more info visit:
www.red-line.co.uk

PARADIGM
SW → Signature Sub 2
£7,250 Approx

1 2 3 4 **5**

Reference grade sub for serious installs only

Highs: Astonishing power, control and speed; build quality is first rate
Lows Can you afford one?

→ Specifications
Frequency response: 7Hz-150Hz (claimed)
Amplifier: 4,500W
Driver: 6 x 10in
Weight: 105.7kg
Enclosure: Sealed
On-board equaliser: No
Remote control: No

Tested: Issue 183
For more info visit:
www.paradigm.com

BK ELECTRONICS
SW → XXLS400DF
£400 Approx

1 2 3 4 **5**

Another excellent affordable sub from the Brit-based brand

Highs: Clean, tight output with 'warm' feel from its Class AB amplification;
Lows: Black box design

→ Specifications
Frequency response: 19Hz-120Hz (claimed)
Amplifier: 400W
Driver: 12in
Weight: 29kg
Enclosure: Sealed
On-board equaliser: No
Remote control: No

Tested: Issue 191
For more info visit:
www.bekelec.com

POLK AUDIO
DSW → MicroPRO 2000
£1,200 Approx

1 2 3 4 **5**

Premium-level small-scale subwoofer

Highs: Superb performance from such a small unit; automatic RoomEQ
Lows: Expensive for an 8in

→ Specifications
Frequency response: 22-200Hz (claimed)
Amplifier: 1,200W
Driver: 8in Weight: 15.4kg
Enclosure: Sealed, with passive radiator
On-board equaliser: No
Remote control: Yes

Tested: Issue 186
For more info visit:
www.polkaudio.com

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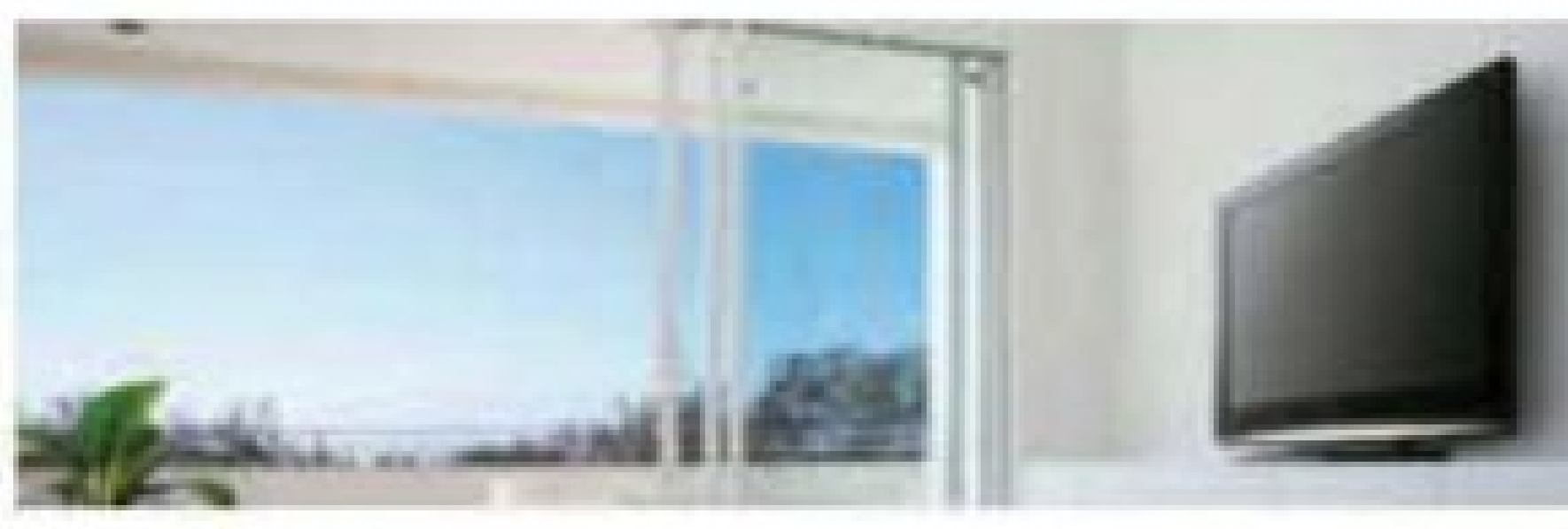

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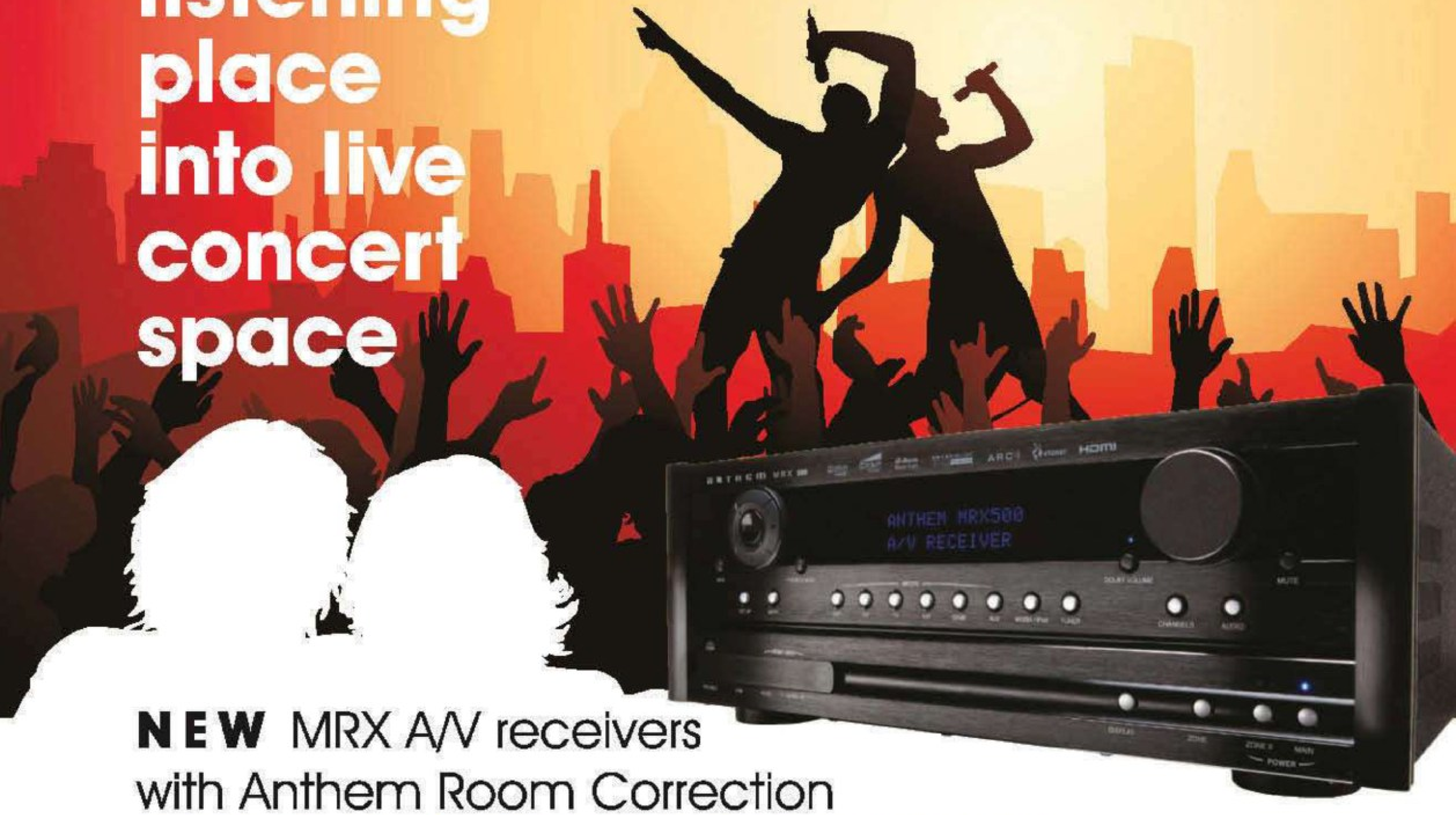

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